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"I cannot help plead to my countrymen, at every opportunity, to cherish all that is manly and noble in the military profession, because peace is enervating and no man is wise enough to foretell when soldiers may be in demand again."
(GENERAL SHERMAN.)

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THE MILITARY ACADEMY.

A DISCUSSION

OF

ITS METHODS AND REQUIREMENTS.

ADMISSION TO THE MILITARY ACADEMY.

BY BREVET MAJOR-GENERAL JAMES B. FRY.

[Read at a General Meeting of the Military Service Institution, Governor's Island, November 18th, 1882.]

IN peace prepare for war is a maxim as old as war itself. It is expressed in the Fable of the Boar quietly whetting his tusks, with no enemy in sight. Ward in his "Animadversionnes of Warre" as early as 1639 heads a chapter, "It is good in time of peace to provide for warre;" and, having established that proposition, he follows with a chapter entitled "Of the things necessarily to be provided; and first of '*victuals*.'" Evidently he believed, as has since been said, an army moves upon its belly.

We attach peculiar importance to the maxim, because the Father of his Country transmitted it to us. But to provide "victuals" beforehand was not the preparation which Washington had in mind. He deemed military education a duty of peace; and in 1793 recommended the creation of means "for the study of those branches of the art" (of war) "which can scarcely ever be attained by practice alone." The Military Academy grew out of the necessity which he experienced during the long struggle for freedom; and for many years past that Institution has been supplying with remarkable success the demands for high military education which from time to time have been made upon it. There is no national Institution of any description that has fulfilled its purpose better, or is more creditable to its various managers than the U. S. Military Academy.

It is with due deference to this fact that it is proposed to discuss the examination for admission to it as now conducted by the authorities. There are but two statutes on the subject of the qualifications of candidates. Section 3, Act of April 29, 1812, says: "Each cadet previously to his appointment by the President of the United States shall be well versed in reading, writing and arithmetic." This was the whole law upon the subject until 1866. The Academy itself, long prior to 1866, had been finding fault with the quality of the material admitted under the statute of 1812. It desired that the standard for admission should be raised, without, however, raising the standard of graduation. In other words, it was desired that the candidate should have more education to get in, but that the graduate might go out with about the same amount as formerly. It was not the purpose of the Academy, however, to escape its duty of giving a thorough education, or even to lessen its own labor. The aim, no doubt, was to secure pupils who, on account of their advanced preparation, would be more likely to master the military course and turn out the most accomplished graduates.

In 1866 it was enacted (by joint resolution of June 16, Section 2) that "in addition to the requirements necessary for admission, as provided by Section 3 of the Act making further provision for the Corps of Engineers, approved April 29, 1812, candidates shall be required to have a knowledge of the elements of English grammar, of descriptive geography, particularly of our own country, and of the history of the United States."

This Act admits of great latitude in construction. It requires "a knowledge of the elements of English grammar," etc., etc. What is "a knowledge," and what are "the elements," are questions left for decision of the Academy. This law certainly raised the standard of admission. It did so, however, only by exacting a knowledge of the elements of English grammar, geography, and history of the United States, in addition to previous requirements. The Act of 1812, which requires merely that the candidate shall be "well versed in reading, writing, and arithmetic," has not been changed. No higher standard in those subjects is authorized. But the standard in them has been raised. The law simply requires that the candidate shall be *well versed* in reading, writing, and "arithmetic." The Academic Regulations—construing and enlarging the law—say he "must be able to perform with *facility and accuracy* the various operations of the four ground rules of arithmetic, of reduction, of simple and compound proportion, and of vulgar and decimal fractions," etc. The Regulations increase the severity of the law. The Academic Board increases the severity of the Regulations. "Well versed in arithmetic," as used in the law, and as construed by the Academy in early times, means skill in the handling of known quantities—knowledge of the rules of arithmetic, doing sums in figures—not profi-

ciency in solving problems, involving unknown quantities, and perhaps calling for the use of letters and signs. In short, the candidate, by the law, must be well versed in *arithmetic*, not algebra. The following ten (10) questions in arithmetic (?) put to candidates in June last, 1882, are submitted as evidence of the severity of the Academic Board :

Time allowed three and a half hours.

1. How many times will £641 s14 d11½ contain £2 s15 d6¾?
2. Find the smallest number greater than 3 which, divided by 54, 69 and 132, will give in each case a remainder of 2½.
3. On October 12, 1881, A was 33 years, 6 mos., 16 days old, and B was 42 years, 3 mos., 2 days. On what day of the month and year was B exactly five times as old as A, and why did he not remain so?
4. A does ⅓ of a piece of work in 14 days; he then calls in B and they finish the work in 2 days. In how many days would B have done the work alone?
5. Multiply 4.32 by .00012.
6. Explain the reason for placing the decimal point in example 5 (the rule for doing so is not the reason.)
7. If 35 men do a piece of work in 24 days, in how many days will 2½ of that number do a piece of work 7½ times as great, providing the second set of men work twice as fast as the first, but only work one-third as long in a day?
8. Separate 772⅔ into three numbers, which shall be in the same proportion as 2½, ⅓ and ⅔?
9. How many fifteenths are there in 1.03?
10. At a game of ball A wins 9 games out of 15 when playing with B, and 16 out of 25 when playing against C. How many games out of 118 could C win playing against B?

The questions submitted to candidates in September last, 1882, were of the same kind. Three of them are as follows :

"A cistern can be filled by a pipe in 18 minutes, and by another in one-third of an hour, and can be emptied by a tap in two-thirds of an hour, how much of the tank will be filled in 10 minutes, all being open?"

* * * * *

"A wheel, 5 feet in diameter, makes 2,500 turns and goes 6 miles. The circumference is 31,416 times the diameter; how much did the wheel lose by turning around?"

* * * * *

"The stage leaves Rousley at 12.30 P. M., and travels 15 miles in two hours. How far can a boy travel in the stage so that travelling 3½ miles an hour he may reach Rousley at 2.45 P. M.?"

So much for arithmetic.

The law says the candidate shall be "*well versed* in reading and "writing." The Regulations say he "must be able to read and write "the English language *correctly*" (which is more than all college graduates can do), and shall have a knowledge of English grammar. To enforce this regulation the Academic Board divides grammar into three parts named and valued as follows :

1st, Definition,	value 15
2d, Parsing,	" 45
3d, Correcting errors in English,		" 40
Total,		100

The candidate who fails to get 60 of the total is generally rejected.

"A knowledge of the elements" is an elastic term, as already stated, and it rests *primarily* with the Academic Board to determine its scope, but statistics hereinafter given, taken with the foregoing facts, indicate that the time has come for higher authority to interpret the law and revise the Regulations on the subject of admission.

No classification of candidates by their knowledge when entering is authorized or necessary. They are arranged alphabetically for beginning their Academic course, and their subsequent classification is wholly according to merit as ascertained by examinations in the courses taught at the Academy. The conclusion from the foregoing premises is that the present system of examination does not conform to the law, or at least to a proper interpretation of it.

It is maintained, in addition to this, that the system is not calculated to secure the best results. It is not now and never has been the purpose of the Military Academy merely to produce the second lieutenants required by the regular army. As Mr. McHenry, Secretary of War, said, in 1800: "It is not enough that the troops it may be deemed proper "to maintain be rendered as perfect as possible in form, organization "and discipline; the dignity, the character to be supported, and the "safety of the country further require that it should have *military instruction capable of perpetuating the art of war*. *Military science* ought to be "cultivated with peculiar care, so that a sufficient stock may always exist "ready to be imparted and diffused to any extent, and a competent number of persons be prepared and qualified to act as engineers," etc.

Washington, in 1796, urging that there should be a school to keep the nation "supplied with an adequate stock of military knowledge," said, "The art of war is extensive and complicated; it demands much pre-

NOTE.—Woolwich only requires of candidates "a competent knowledge of the first "four rules of arithmetic, the rule of three, the declension of the nouns and conjugation of verbs by the Latin grammar."

Clode's "Forces of the Crown," pp. 459-460.

"vious study; the possession of it in its most *improved* and *perfect state* "is always of great moment to the security of a nation."

President Monroe said in 1822, "The Military Academy forms the "basis in regard to science on which the military establishment rests."

The various laws concerning the creation, organization and re-organizations of the Military Academy sustain the assertion that the main purpose of the Institution is the one set forth in the foregoing extracts. The Academy, besides furnishing lieutenants for the current duties of the regular army, should keep the nation supplied with persons thoroughly educated and acquainted with the "art of war" "in its most *improved and perfect state*," among whom men may always be found qualified for high command, and for the duties of the artillery, the engineers and the staff.

With a view to securing better material for this purpose, the standard of admission has been raised, and the Academic Board about 1870 established a new method of examining candidates. Formerly the candidate was examined orally and at the black-board in the presence of the whole Faculty. Sometimes he was under the disadvantage of embarrassment, but the experience, patience and skill of the Professors overcame that, and disclosed not only how much of the subject upon which he was examined the candidate understood, but led to a pretty close estimate of the character and calibre of his mind. An examination conducted in this way was thorough, considerate, liberal, and resulted in well-founded convictions and tolerably correct conclusions. The objection to it was that it exposed the Board to the charge of being influenced by feeling one way or the other, and of not having an exact record of the examinations with which to defend its action. It was largely, if not wholly, a defensive measure, not in the interest of the candidate, that the Academic Board abandoned that system. Under the present system the candidates are (for examination) known to the Board only by numbers. Questions in the various subjects, written out beforehand, are submitted to the candidates, who, under the eye of an assistant Professor, but without aid or consultation, work for a limited time to produce the answers in writing. The merit in these answers is indicated by numbers fixed arbitrarily by the Board.

If the number received in a subject does not come up to the level prescribed, the Board rejects without learning any more about the person concerned than these written questions and answers convey—without, in fact, knowing who the person is. This has the effect of putting "cramming" at a premium, instead of a discount, for entry to the Institution in which cramming is most roundly condemned and most positively interdicted. This examination is free from partiality and prejudice, and affords a record made by the candidate himself with which the Board

can defend its action, and, in case of complaint, confuse and confound the candidate and his friends. Nevertheless it is harsh and unwise, and is directly at variance with the mode of proceeding at all subsequent examinations. While (if the questions be proper) it might be made to fulfil the requirements of the law, it is not the way to secure that material to which the course of instruction at the Military Academy can be applied with the best results. It gives no consideration to lack of years or lack of opportunities for schooling. It calls for just as much book knowledge from the Western farmer boy of 17 as from the man of 22 from Boston, the seat of learning. No account is taken of the fact that the training of the former may have been such as to give high development to traits essential in the genuine soldier—industry, energy, fidelity, obedience, courage, perseverance, and self-reliance. The tendency of the high standard of admission and the present mode of examination is to discriminate against the poorer Congressional Districts and Territories, in the enjoyment equally with the rich, of the right of representation at the national Military Academy. From 1838 to 1876—the only period for which statistics on this point are at hand—the Academic Board rejected *one-third* of the candidates from Arkansas, nearly *one-half* of those from Colorado, nearly *one-third* from Kansas, nearly *two-thirds* from Nevada, *one-half* from West Virginia, and *five-sixths* from Idaho; while for the same period it rejected but little more than *one-twelfth* from the District of Columbia, about *one-seventh* from Connecticut, *one-tenth* from Maine, less than *one-fourteenth* from Massachusetts, *one-thirteenth* from Rhode Island, less than *one-twentieth* from Vermont, and less than *one-twenty-third* from New Jersey. The Military Academy, in a way and degree peculiar to itself, develops the reasoning powers and gives scope and grasp to the mind in dealing with the various problems of life as they are encountered from day to day. This is the merit of the *West Point system*. Hence the more of the aggregate knowledge required for graduation which a pupil acquires *through that system* the better mental training he will have.

The youth of true manliness with mind enough to master the studies is a better subject for receiving the West Point course in its full force, if he has just enough education to enter, than he would be with a greater amount of modern cramming.* In other words, early cramming is opposed to the distinctive purpose of the West Point system, which is high development of reasoning power and thorough understanding of principles.

* In a recent lecture for candidates for admission to the India Civil Service, published since this article was prepared, Professor Max Muller says: "That process of 'cramming and crowding which has of late been brought to the highest pitch of perfection, instead of exciting an appetite for work, is apt to produce an indifference, if 'not a kind of intellectual nausea, that may last for life.'"

Of the class which entered in 1839 (Grant's) the Academic Board rejected but 2 out of 78. From 1840-'49 the rejections by the Academic Board ranged from zero to $15\frac{1}{2}$ per cent., the annual average being 7 per cent. The class which entered in 1849 had no rejections. It graduated McPherson No. 1, Sill No. 3, Schofield No. 7, Tyler No. 22, Sheridan No. 34, and Hood No. 44.

During the next decade beginning with 1850 the rejections averaged $12\frac{1}{2}$ per cent., the lowest, 3 per cent., being in the class which entered in 1850. The class that entered in 1850 graduated G. W. C. Lee No. 1, Abbott No. 2, Ruger No. 3, Howard No. 4, Pegram No. 10, J. E. B. Stuart No. 13, Stephen D. Lee No. 17, Greble No. 21, S. H. Weed No. 27, and B. F. Davis No. 32. The greatest number of rejections in the decade was in the class which entered in 1859. That class graduated Meigs No. 1, Michie No. 2, and Twining No. 3.

The average percentage of rejections in the next decade beginning with 1860 was 18, the smallest 8, in 1863, and the largest 30, in 1868.

In the next seven years, from 1870 to 1876, the average percentage rose to 37, reaching the enormous figure 52 in the year 1870.

Prior to 1866 the law did not permit the examination of candidates in Grammar, Geography or History. From 1840 to '49, 52 persons were rejected; of these 21 failed in reading, 24 in writing, 21 in spelling and 52 in arithmetic. Many of these, as indicated by the figures, failed in more than one subject. From 1850 to '59, 118 persons were rejected; 30 failures in reading, 80 in writing, 85 in spelling and 58 in arithmetic.

In the following decade Grammar, Geography and History became subjects for examination, and 170 rejections occurred; 46 in reading, 98 in writing, 91 in spelling and 94 in arithmetic; and although only three classes were examined under the law adding the new subjects above mentioned there were 50 failures in grammar, 35 in geography and 41 in history.

During the seven years from 1870 'o 1876 there were 401 rejections; 35 in reading, 165 in writing, 165 in spelling, 161 in arithmetic, 257 in grammar, 204 in geography, and 171 in history.

There is something startling, if not alarming, in the rapid increase in rejections, and in the magnitude of the final figures. The average yearly percentage of rejections has gone up from 7 in 1840 to 52 in 1870; and the actual number of persons turned away has risen from 70 for the ten years from 1840 to '49, to 401 for the seven years from 1870 to '76.

Two causes only could operate to produce this remarkable result—first, the higher standard of admission, including the introduction of new subjects and the manner of conducting the examination; and, second, inferiority in the candidates as compared with their predecessors. As the means of so-called education have increased greatly during

the period under consideration, it would seem that the later candidates should be better prepared than the earlier ones were. If that were so the enormous increase in rejections would be due wholly to the operation of the law and the action of the Academy. But there is good reason to think that in later years candidates have not been as well qualified as formerly. This may be attributed to the fact that instruction in the ordinary branches is not as thorough under the popular school system of the present day as it was under the private school system of earlier times. It is a law of nature that cost is the measure of value. The public school system, it is true, costs enough—over eighty millions of dollars a year—but that system is based on the assumption that people are entitled to schooling whether they pay or not. Some get it without cost, direct or indirect. This tends to depreciate the quality of the article as well as the estimate placed upon the gratuity by its beneficiaries. When parents were directly responsible and settled at so much a quarter for having their boys taught the three Rs, they took more pains to see they were getting what they paid for than they do now, when the State determines what education is, assumes the responsibility, decides as to the *quid pro quo*, and pays the bills. The compulsory feature of the public school system bears directly on the view here presented. When schooling was a commodity which could not be obtained except by direct payment of hard-earned cash, it was mainly sought for in cases of minds inclined and fitted to receive it. Hence in those days intellect and schooling were more frequently found together than they are now, when all intellects are bound by law to take schooling. The proportion of intellectual among the educated boys was greater, and the boy who had average information was then more apt than now to possess the necessary intellect for West Point.

General Schofield said in 1880, while Superintendent of the Military Academy, "I have understood it as the general opinion of the older officers here that the candidates exhibit less thoroughness of elementary instruction than they did in earlier times." The late Professor Church reported as follows to the Board of Visitors in 1876: "From my experience in the examination of candidates for admission to the Military Academy, I am satisfied that there is somewhere a serious defect in the system of instruction or in its application, in the schools of our country, for education in the elementary branches; particularly in arithmetic, reading and spelling. I think our candidates are not as thoroughly prepared as they were twenty years ago."

In 1880 Professor Kendrick said, "I frequently conversed with Mr. Church upon the subject; we were in full agreement thereon. Judging from what we see here, the common branches—reading, spelling, grammar, arithmetic, geography—are not so thoroughly taught in the schools

"of the country as they were twenty-five years ago. The young men "who come to us are not taught to observe and to reason so well as they "were forty years ago. The schools of a large part of New England "form no exception to this remark."

In support of the foregoing views, it should be borne in mind that in former times the candidates were a year younger than now, the limits then being 16 and 21, whereas now they are 17 and 22, thus giving a year longer for preparation.

But, after allowing full weight to the falling off in preparation, the fact remains that the Academy exacts a higher degree of mere acquirements than formerly, and that doing so tends to the admission of "crammed" candidates and the rejection of good raw material, and is not likely to further the purpose of the Institution.

During the decade from 1840 to 1850, 869 cadets were admitted, and 427 graduated, 49.1 per cent. From 1850 to 1860, 807 were admitted, and 383 graduated, 47.4 per cent. From 1860 to 1870, 778 were admitted, and 494 graduated. This period embraced the Civil War, and the percentage of graduates arose to 63.4, but in the next decade, 1870 to 1880, the percentage fell to 53.4, there being 948 admissions and 507 graduations.

Adopting 1866 as the date of the high standard of admission, the records disclose the facts that for ten years just preceding that time—that is, from 1857 to 1866—the Academic Board rejected only 17.3 per cent. of the candidates for admission, whereas for the ten years following the introduction of the high standard, 1867 to 1876, the average of rejections was 34.4. That is to say, the percentage rejected under the new standard for the period named is double what it is under the old. If this enormous increase is based on sound principles it ought to show a corresponding increase in the percentage of graduates. But we find that for the period from 1867 to 1876 the rejections increased a *hundred per cent.* over the preceding decade, while of those admitted there has been an increase of *less than 6 per cent.* in the graduations. To this it may be added that the percentage of graduates in the class of 1882 is less than in any class for 25 years preceding the time the standard was raised. It appears from this that raising the standard of admission has not materially increased the quantity of graduates. It cannot as yet, at least, be claimed that it has improved the quality of them.

All who graduated prior to 1866 were admitted under the old, or low standard. They have been tried by time in peace and war. The civil as well as the military walks of life attest their excellence. It remains to be seen how the graduates who entered or may enter under the higher standard of admission will compare with them.

It is noteworthy that the average number of cadets at the Academy is

not materially greater than it was years ago, notwithstanding the fact that in consequence of increase of population, the number authorized by law has gone up from 250 in 1850 to 253 in 1860, to 263 in 1870, and to 312 in 1880. There were only about 185 cadets at the Academy from January to June last, 1882, and twelve per cent. of these had been found deficient and turned back for a year to go over the course a second time. Of the original 102 persons who entered in 1878 only 26 graduated last June.

The Academy is a popular Institution designed to confer its advantages with as near approach to equality as practicable throughout the country. The law says that "each Congressional and Territorial District and the District of Columbia shall be entitled to have one cadet "at said Academy," and that "the individual selected shall be an actual "resident of the Congressional District of the State, or Territory, or "District of Columbia, from which the appointment purports to be "made." In executing this law, the President deems it his duty to appoint the candidate recommended to him by the Congressional Representative of the District. This system was established in full light of the fact that inequality existed and would continue in the educational opportunities of the residents of the various Congressional Districts and Territories. It calls for a construction of the law which will favor a low rather than a high standard of admission in order to give the fairest chance possible for representation to districts in which the opportunities for preparatory education are comparatively limited. It is a well known fact that, once in, boys with but little education prior to admission sometimes make the best progress in the four years' course at the Academy, and become distinguished men. The law foresaw inequality among cadets, not only when admitted, but when graduated, and provided that, "after going through all the classes," the cadet "shall be considered as "among the candidates for a commission in any corps *according to the "duties he may be competent to perform."*

The foregoing remarks are designed to show that the examination required by law for admission is not conducted as it ought to be. But beyond this, considering all the facts on the subject, especially the way appointments to the Academy are made (one from each Congressional District on the recommendation of the Member of Congress), it is quite possible that it would be better to dispense by law with a mental examination for admission, and let every physically qualified appointee enter upon the course and remain until found deficient *in a subject taught by the Academy*. This would require the Institution to bestow six months or so of its labor on a much larger number than it does now. But none of the instruction would be lost. Much or little, it would in cases of discharge be taken back to be "imparted and diffused" in the Congressional District entitled to it.

It would simplify matters at the Academy if every appointee were capable of graduating. But that is hardly possible. A preparatory year as a part of the course of the Institution, in addition to the four years' term, as at present established, might increase the percentage of graduates, and would afford appointees a fair chance of admission to the regular course.

In providing a military education for a limited number of its sons, the Government certainly ought to see that its bounty is wisely bestowed. Could not that be done sufficiently well by care in appointment, rather than by *rejecting the appointee before he has had a trial in the course taught by the Academy?* In any event, the Academy will not fail to do its part in providing a *good education*, in the broadest acceptance of the term, for all appointees confided to it.

THE MILITARY ACADEMY AND ITS REQUIREMENTS.

BY GEORGE L. ANDREWS, A.M.,

PROFESSOR OF MODERN LANGUAGES, U. S. MILITARY ACADEMY.

[Read before the United States Military Service Institute, West Point, New York, March 8th, 1883; and before the Military Service Institution of the United States, at Governor's Island, New York Harbor, March 17th, 1883.]

THE subject of the requirements at the Military Academy, as affecting the usefulness of the institution, is of no little importance, and has naturally received at various times considerable attention and comment. Much has been said on this matter by the annual Boards of Visitors; but their remarks have rarely received due consideration, and there is even some tendency to speak slightly of their views. No doubt they make mistakes, and are sometimes at variance with each other; but as they are largely composed of distinguished men of almost all professions, including men of high position in our Government, graduates of the Academy, presidents and professors of our most prominent educational institutions, it should seem that their opinions, at least in regard to matters upon which for a great number of years the successive Boards have been in accord, are entitled to more weight than the crude notions of many that criticise the Academy.

In most cases, it is hardly to be expected that opinions already formed—often opinions, not of judges, but of advocates—will be changed by discussion. Many seem to think it a sufficient answer to all argument to say, "You have not convinced me," forgetting that a man may justly

be called upon to give some better account of the ground of his opinions, if they are to have weight, than the fact that he chooses to hold them. However, it is hoped and believed that some are disposed to give both sides a fair hearing; and it may be well at this time, when unusual attention to the matter has been roused, to set forth, from the point of view of an officer of the Academy, some of the reasons for believing that none of the requirements at the Academy are at all unreasonable, and that the present requirements for admission should be not only maintained, but increased as circumstances shall permit.

No report is made by the Academic Board, nor are its views called for or expressed, except in the form of some recommendation closely connected with the performance of its specified functions. The Superintendent alone makes reports to the War Department, does this with no required consultation with any one, and places upon recommendations such endorsements as he thinks proper, the tenor of which need not be known to the Board. The discipline of the Academy is almost entirely in his hands, subject, however, to the approval of the War Department, under the control of which the Academy is placed. The course of the Department, as to sustaining the recommendations of either the Superintendent or the Board, has greatly varied at different times and under different Administrations. Usually, the tendency has been to overrule recommendations by the Board when they are opposed by the Superintendent. Upon the rejection of candidates, the decision of the Board is final, and is so at present upon the deficiency of cadets; but this last has not always been the case. These facts, so important in their bearing upon the responsibility of the Board, the Superintendent, and the War Department, respectively, are unknown to many, and hence the Board or "Faculty" is often spoken of as alone responsible for whatever takes place at the Academy. The official communication of any views of the Board, otherwise than through the regular channels to the War Department, is contrary to regulations; and except so far as made known by the War Department, the Boards of Visitors, or the Superintendent, the opinions of the Academic Board or of its members rarely become public. Nor do the reports made by the Superintendent ordinarily attract any general attention.

On the other hand, the friends of young men rejected at examination for admission, or found deficient at subsequent examinations, are free to give vent to the hostility which is nearly always excited in such cases

without the slightest regard to the justice or necessity of the action of the Board. Unjust criticism and harsh censure of the Academy or its officers may be liberally bestowed, without in most cases any reply in defence. There are, it is true, many staunch friends of the Academy, among whom are included most of its graduates, and it is but just to those friends to acknowledge the very great value of their sympathy, counsel, and moral support. Such men leave those in whom they are interested to stand, with other candidates or cadets, upon their own merits, honorably abstaining from any attempts to influence, directly or indirectly, the action of the authorities in regard to them, and accepting without a murmur that action as just. But there are a few graduates who show a disposition to cavil at the Academy. The unfair remarks in the U. S. Senate made some time ago by a graduate will readily be recalled. Some of these graduates, in the army and out of it, find fault when their friends or relatives fail of admission or graduation, or do not receive some desired appointment or indulgence.

A graduate, who brought his son with him to be examined for admission, expressed very strongly his unfavorable opinion of the severity of the Board, alleging that the result was an unfair discrimination in favor of Eastern boys and sons of rich men with their advantages for education, against Western boys and sons of poor men; but his own son, a Western boy, having passed the examination without difficulty, nothing further was heard from him on the subject of undue severity. Two years later, however, the same gentleman was objecting to the appointment of cadet officers, saying that cadets should be detailed temporarily and in rotation to perform the duties of such officers; his son was not a cadet officer. A graduate officer of the army was at about the same time loudly declaiming against the action of the Board, because his son—a young man that could not have graduated—had, after repeated trials, failed of admission.

Another graduate officer, occupying a high position in the army, expressed his views as follows: "It has for years been urged by some whom I have always thought unwise and imprudent, that the standard of admission should be raised. I do not think so. The son of the frontier settler should be able to enter the Academy if he has attained knowledge enough to be able to read and write and to begin the study of mathematics at the beginning. Then only will its boast of being a perfectly republican, perfectly democratic institution be true, when the son of the poorest can enter with the son of the richest, and, if he has natural capacity, can work his way through the Academy and into the military service of his country. I do not share in the desire which inevitably grows up at West Point, as in all institutions of learning, among small bodies of teachers, to raise the standard of their courses."

That graduate had, it is understood, had a friend rejected at the

examination for admission ; and what he says is a fair example of criticisms made by others under like circumstances. Why is he any more likely to be disinterested than the "small body of teachers"? In his sympathy for the son of the frontier settler, has he not forgotten that there are many incapable young men who are sons of rich and influential persons, and who would be admitted if the standard were lowered sufficiently for the ostensible purpose? Is it not well known that the son of the frontier settler—the son even of the poorest man—can and does now enter the Academy on equal terms with the son of the richest, and take his place in his class according to his personal merit, without the slightest regard to his pecuniary circumstances? Is it not the fact that but a small proportion of the cadets are sons of men in independent circumstances? If, as that graduate implies, it is necessary that an institution, to be perfectly republican, perfectly democratic, should receive all comers, with little or no test of their fitness to profit by its advantages, and thus prepare themselves for that usefulness to the public, to train them for which was the very object of the institution, it would seem that the only plan fully meeting his views of putting all upon a footing of perfect equality is to have all cadet appointments given by lot. It is true that such a plan would not give much play to personal or political influence.

It will be found that most of those who complain of the requirements at the Academy or the so-called severity of the Academic Board, are interested in some one that has failed to be admitted or to be graduated, or they have been influenced by one-sided statements, with no inquiry as to the grounds of the action of the Board. They may not always be conscious of their bias, but nevertheless it exists and affects their judgment. While this is no good ground for not giving due consideration and weight to their facts and arguments, it is a sufficient reason for receiving with cautious scrutiny mere dogmatic expressions of their opinions. However, such expressions are often eagerly seized upon by others, especially by those hostile to the Academy, as confirming their own views. But it should be remembered that few even of the graduates have given the subject the careful examination and consideration necessary to entitle their opinions to much weight. Read the crude and often conflicting suggestions made by graduates to the Commission of 1860.

No one pretends that the Academy is above criticism or improvement. But, on the other hand, the system of the Academy is the result of many years' experience, all pointing in about the same direction. Such experience ought not lightly to be set aside in favor of hastily conceived opinions on the part of those who take little or no pains to inform themselves of the reason of the course pursued at the Academy, who have had little experience in matters of education, and who often show, by appeals

to passion and prejudice, that they are by no means willing to rest their case on its merits.

It should be borne in mind that the history of the Military Academy since 1817 has been that of a long struggle between public and private interests; the authorities of the Academy, on the one hand, striving in the discharge of duty to enforce reasonable requirements in respect to studies and conduct, and the friends of cadets who failed in either or both, on the other hand, fighting to keep those cadets at the Academy in spite of any and all of their short-comings. Success in the struggle has been variable; at times the friends of the cadets would to a considerable extent gain the advantage; then the increasing troubles caused by such a result would in a great measure replace the control in the hands of the authorities. But never have the cadets and their friends gained the upper hand even partially, except to the serious detriment of the Academy and the cadets themselves. To be satisfied of this, it is necessary only to compare the condition of the institution and of the corps of cadets under a firm administration by the authorities sustained at Washington, with the condition of both under a lenient administration or one not sustained at Washington. Under which rule have serious disturbances occurred? Which course has in the long run proved best for the cadets? There will readily be recalled the names of some who have, in spite of conduct or deficiency demanding dismissal, been allowed, in disregard of the recommendations of the authorities of the Academy, to graduate and receive commissions in the army. How many of them have proved a credit to the service, and how many have been disgracefully dismissed from it?

The Academic Board is represented as unnecessarily harsh and rigorous, lacking in kindness and consideration for youth, and more anxious about its own reputation and that of the Academy than about the interests of cadets. But here it may well be asked, whether the Military Academy was established, and is supported, to educate, irrespective of their merits, all young men that can by any influence obtain an appointment as cadet, or to train for the military service of the country those having sufficient natural ability and due preparation before admission? Is the institution intended for the benefit of a few individuals, or for the benefit of the nation? Is it a charity school, or a school from which the nation liberally supporting it looks for a corresponding return? The answer to these questions is obvious. In the language of the Board of Visitors of 1867, "The United States Military Academy is not an institution for the benefit of a favored few, nor should it be an experimental arena of the youth of our country. It belongs to the nation and is supported for the nation's welfare."

It is not, then, the personal interest of candidates or cadets that is

mainly to be considered, but rather what is demanded in order best to attain the object of the institution. Even considering the interests of the cadets only, it is to be remembered that weak indulgence is not true kindness. The experiment of attempting to govern them by a kind of moral suasion has more than once been made, but never with success. Prior to 1817, the system of indulgent treatment of cadets had been thoroughly tried, with the result of producing something like chaos. In the report of the Chief of Engineers dated March 30, 1822, it is declared, "that the Military Academy may be considered as having been in its infancy until about the beginning of 1818, prior to which time there was but little system or regularity. Cadets were admitted without examination, and without the least regard to their age or qualifications, as required by the law of 1812. Hence the institution was filled with cadets who were more or less unfit for their situations. It is not surprising, therefore, that a large portion of them have been under the necessity of leaving the Academy without completing their education." With that experience, is it well to favor at this time a second childhood of the Academy?

The result of relaxing the traditional discipline may be seen by the condition of the Corps of Cadets in 1860. At that time the War Department, instead of sustaining the authorities of the Academy, saw fit to continue at the institution, or to restore to it after dismissal, cadets found deficient in studies or guilty of serious misconduct. The following statements were made to the Commission of 1860 by cadets themselves: "The effect of restoring to the Academy cadets who have been dismissed for deficiency in studies has been very bad. We feel as though such men did not properly belong to the corps. The last order from the War Department retaining at the Academy sixteen cadets recommended for discharge did not create any particular indignation, as we had learned to expect such. There is an individual now in the corps who has been found deficient at several examinations. This is mortifying to all cadets who take a pride in the institution. The discipline has been greatly injured by allowing cadets who have exceeded the number of demerits allowed by the regulations to remain at the Academy. Some of the cadets will now say openly that they don't care whether they get demerit or not, that they know they will not be dismissed. Cadets say that the present Secretary of War will never permit any one to be dismissed, and they neglect their studies and get demerit with perfect indifference."

In January, 1861, 29 cadets were found deficient, including 14 deficient in conduct, 9 of the latter being also deficient in studies, and one having 252 demerits for six months. Of the lowest class of 68 members, 15 were deficient in studies, of whom 4 were also deficient in conduct; one was deficient in conduct only.

In January, 1883, with a higher standard of proficiency, 19 cadets were

found deficient in studies, 3 of whom were turned back into the next class; not one deficient in conduct. Of the lowest class of 119 members 14 were deficient in studies. In respect to demerits, there was the following remarkable record: For the month of December, credits not considered, 53 had no demerits, 195 had from 0 to 10 demerits, only 12 had more than 10 demerits, not one had above 20 demerits. For the 7 months ending December 31, 1882, including time of encampment, credits considered, 86 had no demerits, 39 had from 0 to 10 demerits, 26 had from 10 to 20 demerits, 109 had above 20 demerits; that is, 151 out of 260 had less than 20 demerits for seven months, the limit allowed being 125 demerits. The credit system is this: any cadet receiving less than eight demerits in any one month is entitled to have the difference between 8 and the number received deducted from any demerits that may stand recorded against him. Even with the advantage of the credit system in favor of the present time, the difference between January, 1861, and January, 1883, is certainly remarkable. The only known causes of this difference are, that there is a firm administration at the Academy on the part of the Superintendent and officers under him, that the cadets are held well up to their work by the Academic Board, whose decision is known to be final, and that the authorities at West Point are well sustained by the War Department.

The whole experience of the Academy shows that the principle of reasonable requirements inflexibly enforced is best for all concerned, and this applies to both studies and conduct. The cadets themselves have often admitted the truth of this statement. A cadet who had been found deficient at the end of his fourth year, and who was trying to be restored to the Academy, was asked by a member of the Board, whether in his experience he had not found that those officers and instructors who had firmly and steadily held him up to his duty had acted most wisely for his own interests. He replied without hesitation, "Yes, sir; the instructors that have done best for me are Lieut. K— and Major M—," mentioning two instructors noted for being exacting and strict.

Cadets instantly perceive any tendency to relaxation in requirements, and act accordingly. So long as there is a doubt whether the standard of requirement is to be insisted upon, the cadet will usually abate his exertions and take the chances; but if he knows with certainty what he must expect, he is not much inclined to run unnecessary risks. If a reasonable standard is maintained, leniency invariably increases, instead of diminishing, the number of deficiencies.

In spite of all interference through the efforts of interested persons, the requirements of the Academy undoubtedly have been, and are, upon the whole, enforced to a greater extent than those of any other educational institution in the country. This fact stimulates complaint on the part of friends of the cadets that do not succeed. Indeed, it is natural

that those accustomed to see personal influence prevail over what a reasonable discipline would demand in our colleges should fail to understand why such influence has so little effect at West Point. But students in college and cadets at the Academy do not stand upon the same footing. The former pay their own expenses in college, are not educated for a special purpose, and on leaving college must rely on their own exertions to establish themselves in a calling; while the latter have their expenses at the Academy paid by the Government, are specially trained for the military service of the country, and on graduating receive, without exertion on their part, a position in an honorable profession. Whatever may properly be demanded of the college student, it is plain that at the Military Academy the interest of the cadet is justly secondary; and that it is the right and the duty of the Government to make and enforce, without respect of persons, such requirements in studies and conduct as may seem best for the benefit of the nation.

It is believed that the authorities of some at least of our colleges see that better discipline than they can now maintain is desirable for all concerned. At any rate, there can be no doubt that young men who are to have the authority and responsibility of military officers should themselves have first learned to obey promptly and cheerfully the lawful commands of their own superiors. In the requirements of the Academy in respect to conduct, there is surely nothing unreasonable. The punishments for misconduct are very mild, and no one is punished without having had an opportunity to give his own explanation of the alleged offence. Indeed, any one that cannot or will not behave properly without much punishment is not allowed to remain at the institution. It is no part of the West Point system to educate young men that must be punished into good behavior. There is no tendency in this country to subject young men to unnecessary restraint, and reasonable or necessary restraint certainly does them no harm. It is said that the mother of Washinton, on being asked what course she had pursued in rearing one so truly illustrious, replied, "Only to require obedience, diligence, and truth." Could any words more precisely describe the course pursued with the cadets at West Point?

What is the result of the discipline of the Academy? On this point, the Board of Visitors of 1876 say: "The Board were met by complaints from parents and friends of cadets—in no case from cadets themselves—that slight offences were visited with extreme punishments; in short that the code of the Academy was Draconian in failing to distinguish between peccadilloes and crimes. A Committee of the Board took pains to trace out, through the records in the adjutant's office, every case which was brought to their attention, and while they were, of course, unable to arrive at the exact merits of individual cases, they were convinced that

the discipline, as a whole, is characterized by fairness and moderation, the demands of the military service being considered. The results of the system, in the opinion of the Board, amply justify it. The fine physical development secured ; the erect carriage, the open ingenuous face and frank manners, contrasting delightfully with the hard, dissipated look of so many unrestrained youth ; the deferential courtesy which so well became the manly bearing and which it seemed so easy to render ; the promptness and precision in infantry exercises, the dash and brilliancy in cavalry drill ; and, in general, the manhood secured, physical, intellectual, and moral, vindicate, in the main, the system of discipline pursued as admirably accomplishing the end for which it is designed."

To this expression of opinion by the Board of Visitors may be added a reference to the military and civil services of West Point graduates, and to their general high reputation for truth and integrity.

There is such a relation between the requirements for admission to the Academy and the subsequent requirements in studies, that in order to form a just judgment upon either, it is necessary to consider both. This relation is overlooked by those who would lower the standard for admission and leave the course at the Academy unchanged, as well as by those who would leave the former unchanged and extend the latter. The criticisms made upon the Academy would be easier to deal with, and at the same time would have more weight, if they were more consistent, if the critics were more in accord. But as it is, there is much that brings to mind the anecdote of a celebrated painter, who exposed for a single day in a public place one of his best productions, with a request that anything disapproved might be marked with a piece of chalk left for the purpose ; and at night to his mortification found the painting well-nigh covered with marks. However, having effaced these marks, he, on the following day, again exposed the painting, with the request that anything approved might be indicated ; and at night found that the marks of the day before had been restored.

Certain widely different opinions upon the proper course of study at the Academy may here be noticed. Some would have the course made much more practical, and would have the cadet taught many of the routine duties of the army. They think that so much study or mental discipline is unnecessary, that what they call soldierly qualities should mainly be cultivated. The study allowed should be almost wholly professional. They would agree with a certain English general, who, when a young cavalry officer was recommended to him as a man with a good mind, exclaimed, "Zounds, I don't care for a cavalry officer with a good mind, I want one with a good seat !" With them fighting qualities and physical power of endurance are the great considerations ; mental qualifications are of little value, or are even objectionable. They seem to think that the

modern science of war is embodied in the principle of the Irishman at Donnybrook Fair, "Wherever you see a head, hit it."

Others, principally parents or friends of incapable cadets, wishing to have those in whom they are interested receive a diploma, which, thanks to the well-earned reputation of the Academy and the deeds of West Point graduates, is something to be proud of, are anxious only to have all requirements made such as to allow their young men to be admitted and to graduate. Any standard is satisfactory to them, if it does not interfere with the fulfilment of their wishes. They eagerly seek a cadet appointment, but if the candidate or cadet fails, nothing can be more unnecessary to the country than the "aristocratic" Military Academy. In the minds of many there seems to be fixed the idea that an appointment as cadet carries with it a right to receive the diploma as a matter of course. However ignorant, idle, and worthless, the young man may be, his failure is the fault of the Academy. That the interests of the nation which supports the institution are to be regarded, seems to be entirely forgotten.

Others are dissatisfied with the present attainments of the graduate. They find that he has not sufficient literary culture; his education is not broad enough; he knows too little of "strategy, logistics, military statistics, and statesmanship in war;" grand tactics, minor tactics, physiology, and hygiene, receive too little attention: in short, with but little previous study, the whole of the military profession, theoretical and practical, together with the necessary literary accomplishments, is not acquired in four years!

However unreasonable such opinions may be, there are those who at least profess to hold them, and who urge their adoption. It is not denied that the course at the Academy is susceptible of improvement; but precisely what changes should be made, it is not easy to say, nor can that subject be properly discussed within the limits of this article.

The present course of study comprises Civil and Military Engineering, and the Science of War; Law; Ordnance and Gunnery; Natural and Experimental Philosophy; Chemistry, Mineralogy and Geology; Infantry, Artillery, and Cavalry Tactics; Mathematics; Drawing; Ethics; the English, French, and Spanish Languages; besides Practical Instruction in Military Engineering, Military Signalling and Telegraphy, Military Police and Discipline, Use of the Sword, Bayonet, &c., Ordnance and Gunnery, and Tactics. It can hardly be alleged that this course is too extensive, or that the Academic Board is too exacting in respect to it. The Board of Visitors of 1876 remark: "The Board are clearly of the opinion that the falling off (in the proportion of cadets graduated) is not chargeable to any excessive rigor in the course of instruction and discipline at the Academy, and that any relaxation of the standard of scholarship would tell disastrously on the character of the men sent out, on the

reputation of the Academy, and the prestige of the army." There is no indication of mental overwork to be seen among the cadets ; on the contrary, a body of young men in sounder health can hardly be found in the country.

But the course, reasonable as it is admitted to be, and few in number as the branches are, is, and ever has been, quite out of proportion to the standard of admission ; and herein is found the cause of the failure of so many cadets. The present requirements for admission, as enforced by the Academic Board, do not amount to reasonable requirements to enter an ordinary high school ; and are still altogether too low to make sure of sufficient ability and preparation to enable the cadet, without more than ordinary energy, to meet what ought to be required in the course at the Academy. This defect is in part compensated by adapting the requirements of the course to the differences in preparation and natural ability ; what is required of the lowest men being—quality and quantity considered—only from one-half to two-thirds of what is required of the highest men. The standard of proficiency has gradually and slowly been somewhat raised ; but not so that it cannot, with reasonable diligence, be attained by young men of fair ability, who are well prepared in what is required for admission. On the propriety of raising the standard of proficiency, and on the bad effects of lack of proper preparation to enter, the following remarks and statements are worthy of consideration.

A Committee of the Board of Visitors of 1867 say : "The disparity between the first sections and the last, your Committee thinks to be very great. The first sections exhibited a mastery over the subjects they were required to discuss not often equalled in our highest. This statement is true in regard to the first sections in all the classes. The lower sections are very far behind the first in their manifestations of intellectual power and scholarly acquirements. The disparity alluded to is too great to be accounted for simply by any supposed difference of native ability. It arises in too great a degree from the difference in the preparation with which the cadets enter upon the studies of the Academy. The highest efficiency and benefit of this, as of any system of education, depends on the amount of preparation and the equality of preparation with which the student enters upon it. The inequality of preparation on the part of cadets when they enter on their course is too great. We recommend this subject to the earnest consideration of all who have control over it."

Professor Church made to the Commission of 1860 the following statement : "I have sometimes thought that too much care is bestowed upon the lowest sections ; that we were helping and pushing along young men who were not disposed to do much for themselves." General Schofield (then an instructor at the Academy) said : "The standard of the lowest sections is, in my opinion, quite below that of an engineer. I

know of no remedy for this but to elevate the character of the material which we receive into the Academy. It is not possible to bring one-half, perhaps not one-quarter, of those who now enter to the required degree of proficiency."

With regard to those who would reduce the course at West Point, on the ground that study and mental improvement are of little value, how can they justify an idea so extraordinary? When, by general admission, the science of war is every day becoming more extensive and complicated, when the professional skill of the officer is confessedly becoming of greater importance, how can it be supposed that serious study can be dispensed with, or that such study can be successfully pursued without previous mental discipline? Talk of the school of actual war as much as we please, it is a school that now-a-days is not often open, and one in which it is desirable not to have too many lessons to learn. If there are those who think the frontier Indian wars a sufficient school, let them remember the boasting of the French of their school of war in Algiers, the surprise expressed by Von Moltke that a meritorious French officer with whom he was conversing should so overrate the value of experience in that kind of warfare, and the lesson taught by the Franco-German War of 1870. The statements made to the Commission of 1860 showed that few graduates of the Academy studied their profession after leaving West Point; and in our Civil War, without disparagement of their services, it must be admitted that there was much to confirm those statements. Graduates who give their profession the serious study that it demands will hardly complain of the severity of the course of study at the Academy.

Here it may be well to recall the views with which the Academy was established. In his annual recommendation to Congress in 1796, Washington remarks: "The institution of a military academy is also recommended by cogent reasons. However pacific the general policy of a nation may be, it ought never to be without an adequate stock of military knowledge for emergencies. Whatever argument may be drawn from particular examples, superficially viewed, a thorough examination of the subject will evince that the art of war is extensive and complicated; that it demands much previous study, and that the possession of it in its most improved and perfect state is always of great moment to the nation. This, therefore, ought to be a serious care of every Government; and for this purpose, an academy, where a regular course of instruction is given, is an obvious expedient, which different nations have successfully employed." The views of Mr. McHenry, Secretary of War, in 1800, of President Madison, in 1810, accord with those of Washington, and show that the Academy was not established as a mere practical school.

Most of the routine duties of the army can best be learned elsewhere

than at the Academy ; either in the army, or perhaps better, in part at least, at a post-graduate practical school. No institution whatever can in four years teach all that is to be learned of a profession, and in addition find time for a considerable amount of preparatory and disciplinary study, starting with a low standard of admission.

On the other hand, those who would have the higher military branches more fully taught at West Point forget that a certain maturity of mind, joined to a great deal of previous study, is necessary in order advantageously to pursue such branches. The college student, having completed his college course, is prepared for the course in the law, medical, or divinity school ; and even after having completed the latter, still finds that he is by no means a master of his chosen profession. The Military Academy must, even with higher requirements for admission, be not merely a professional school, but to a considerable extent a school of higher preparation, holding somewhat the position of a college in reference to the special schools of law, medicine, divinity, &c. The Academy ought fairly to be expected only to lay the foundation for future improvement and usefulness. How good that foundation is may be estimated by the purpose it has served, with in many cases very little study or attention given to the superstructure. The students of the higher branches of the military profession at the German War Academy in Berlin are picked officers of at least five years' service with troops.

To make up for certain acknowledged deficiencies in the acquirements of many graduates of the Academy, due almost wholly to defective preparation before admission, some persons propose the extension of the course from four years to five years. To this there are at least two strong objections : the deficiencies due to several years' neglect at the time of life best adapted to certain elementary studies cannot be made up in a single year later in life ; and if the restraint, confinement, and seclusion of the cadet at West Point be continued beyond four years it is believed that the disadvantages will out-weigh the advantages. This plan has already been tried without realizing the expected benefit. The five years' course was introduced in 1854. In 1858, the Academic Board, by a vote of eight to two, recommended a return to the four years' course. In the report of the Committee appointed to consider the matter are these words : "In closing their report, the Committee deem it an act of justice to those of the present members of the Academic Board who concurred in the views repeatedly urged by Boards of Visitors * * * respecting certain deficiencies in the acquirements of many of the individuals admitted into the Academy, and recommended, as a means of supplying them, a resort to a course of studies of five years, to state their action was partly based upon deference to opinions emanating from such high authority, and partly upon the hope that an acknowledged want might be

supplied. * * * The trial of this plan (five years' course), as far as it has been carried into effect, has satisfied those members, and others of their colleagues, that the benefits hoped for from it have not been realized, and that detrimental consequences of a graver character have resulted from it than they had been led to anticipate. They therefore feel bound to declare their convictions that to persevere further in this experiment would not only aggravate these consequences, but prove destructive to that feature of sound and thorough instruction which has been the peculiar boast of the Academy, and has secured for it whatever favor it has met with from the country." The Superintendent, Colonel Delafield, stated to the Commission of 1860 that, taking the course of instruction as it was, nothing appeared to have been gained in proficiency, and that under the five years' course a less percentage of cadets had graduated than under the four years' course.

Neither is the proposed preparatory school a good remedy. The course proposed is one year. A year for preparation may do much, if a proper foundation has previously been laid; but the boy who has neglected his studies until he is nearly or quite seventeen years of age will find it impossible to do in a single year the work of several years. He will find it no easy task to acquire habits of study. Teachers engaged in preparing young men to enter the Academy complain very much of the insufficiency of a single year's time for the purpose. The lack of a reasonable amount of study before the age of admission, is in most cases an unfavorable indication of the character and ability of the candidate, and it is to be feared that the preparatory course would mainly serve to aid incompetent young men in entering the Academy. Besides, the provisions made for the education of cadets are already sufficiently liberal, and the nation ought not to be called upon to pay in addition the expense of previous preparation, especially when there are quite enough young men well prepared who would gladly accept cadet appointments.

We may now consider more particularly the matter of requirements for admission. An article upon this subject recently read before the Military Service Institution in New York has attracted much attention. The author, General Fry, is an officer of long experience and high reputation, and had served several years at the Academy as adjutant and as instructor of artillery. His criticisms are made in an open, manly way, under his own name. There is of course no intention of commenting upon his views otherwise than with due courtesy to him. But does it appear that he has made any inquiry as to the grounds of the action of the Academic Board, or any examination of opposite opinions? Does he offer proof of some of his most important assertions? Has he not given undue weight to private interests against those of the nation?

It was not the Academy alone that had long prior to 1866 been finding

fault with the quality of the material admitted under the statute of 1812. Boards of Visitors year after year had been finding the same fault, and moreover have not ceased yet to do so. The Board of Visitors of 1863 say, "The school attainments required by law of candidates for admission to the Military Academy are as rudimentary and limited as our language can express—far below, we are assured, the requisitions of any similar school in the world." Again, "The least that should be demanded of any candidate is that amount of general culture and attainments which constitutes a good English education, and which it is now the aim of the public schools, and their boast, to give, without partiality, to all, poor and rich alike, if the advantages they proffer are properly improved. And we see no injustice in fixing the standard of general attainments and culture as high as that now reached by cadets in good standing at the close of their first year in this Academy, including even an elementary knowledge of one modern language." As will be seen farther on, later Boards express similar opinions.

The statement that "it was desired that the candidate should have more education to get in, but that the graduate might go out with about the same as formerly," is evidently an error. Conceding, as General Fry does, that the Academy did not intend to lessen its own labor, it is not easy to see how the better prepared candidate could fail to profit more by the course at the Academy, as well as to retain the benefit of his acquirements before admission.

General Fry says: "The law simply requires that the candidate shall be *well versed* in reading, writing, and 'arithmetic.' The Academic regulations—construing and enlarging the law—say he 'must be able to perform with *facility* and *accuracy* the various operations of the four ground rules of arithmetic, of reduction, of simple and compound proportion, and vulgar and decimal fractions,' etc. The Regulations increase the severity of the law. The Academic Board increases the severity of the Regulations." He afterwards suggests that "the time has come for higher authority to interpret the law and revise the Regulations on the subject of admission."

Now can it justly be said, that any one unable to do what is required by the Regulations, as quoted by General Fry, is "well versed in arithmetic?" It should seem that ordinary school arithmetics cover no more than is necessary in order to be even tolerably well versed in arithmetic; yet neither the regulations nor the Board require a knowledge of such general applications of arithmetic found in those text-books, as partnership, percentage, interest, alligation, mensuration, extraction of the square and cube roots; all of which would be covered by the law. Far from increasing the severity of the Regulations, or even requiring what the law plainly authorizes to be required, the Academic Board demands only a

good knowledge of fundamental operations, and practically does not strictly insist even upon that.

The regulation referred to dates back, in its present form, to 1832; so that it has taken fifty years to discover that the regulation "enlarges the law." Again, the regulation, as it now stands among the Regulations of the Academy, is by the authority of the President of the United States; what higher authority is to interpret the law and revise the Regulations? Is such interpretation and revision to be solely in accordance with the views of friends of incompetent candidates or cadets?

The statement has been made that several graduates have been unable to solve the problems in arithmetic given to candidates in 1882; and even General Fry implies that they are problems in algebra rather than in arithmetic. If those problems are so very difficult, is it not rather remarkable that 120 candidates out of 148 solved them well enough to be admitted? Nor is there much force at best in the argument sought to be based on the fact that several or even many graduates cannot solve them. How many graduates could now pass the examination of the fourth class in January, to say nothing of the subsequent examinations? How many could, upon subjects studied in their boyhood, now answer questions readily answered in schools by boys twelve or fourteen years old? Are the examinations or the questions too difficult? Not at all. The fact is well known to teachers that the school-boy often knows more of subjects studied in schools than the man who has done little to keep fresh the knowledge he once possessed. The candidate is examined in subjects studied by young men of his age, and has had a year for special preparation; while the graduate has, from long neglect, forgotten much that he had acquired, retaining only the effect of the mental discipline.

An important fact, which goes far to explain the difference between the present examinations for admission and those of an earlier time, is that only within a few years has there been anything like an enforcement of the requirement that the candidate shall be "well versed in reading, writing and arithmetic." What the oral examination so much approved by General Fry was in the opinion of some others, may be seen from the remark of the Board of Visitors of 1863, that "the entrance examination is confined to reading a few passages of familiar English prose or verse, and writing a few sentences from dictation, and performing on the black-board a few operations of the most elementary character in arithmetic."

It is true, however, that the Academic Board had *some* indication of qualifications, from the reports of cadet-instructors that were detailed to give a little elementary instruction to candidates, between the date of reporting and that of examination. But this instruction of ten or fifteen days at most, given by cadets, and often diverted to subjects not in the

official programme, was of little use as an indication of qualifications, of much less as any efficient preparation. Still, so slight was the examination, that possibly some may have passed it who would have failed but for the instruction, indifferent as it was. Indeed, the examination was such that the wonder is, not that comparatively so few failed to pass it, but that any one so disgracefully ignorant as to be unable to do so should have had so little sense of shame as to present himself as a candidate. It was less than should be required to pass from a primary to a grammar school. The time taken to examine a candidate in the three subjects was only five or six minutes. Can it fairly be said, that in such an examination the experience, patience and skill of the Professor "disclosed not only how much of the subject upon which he was examined the candidate understood, but led to a pretty close estimate of the character and calibre of his mind"? Will it be admitted that "an examination conducted in this way was thorough, considerate, liberal, and resulted in well founded convictions and tolerably correct conclusions"? The Academic Board must have been composed of remarkable men truly, if they could, in an oral examination of five or six minutes, not only ascertain what the candidate understood of reading, writing and arithmetic, but form a pretty close estimate of the character and calibre of his mind. If, in admitting candidates, the Board acted upon such an estimate, or upon "well-founded convictions and tolerably correct conclusions," how did it happen that under a very low standard of proficiency an average of nearly fifty-five per cent. of those admitted were subsequently found deficient?

It was not merely as a defensive measure that the oral system of examinations was abandoned, although the imputations cast upon the Board by the friends of rejected candidates are sufficient to justify the adoption of written examinations. How many have been convinced of the justice of the action of the Board only by the written evidence! What an outcry would have been raised if the colored candidate rejected in August last had been rejected at an oral examination! It is, however, on its merits that the written system has been adopted. Tested by experience, it has so made its way as to be largely used at all examinations. Under the late Professor Church it was only slowly adopted for arithmetic; but once tried, there was no proposition to return to the oral method.

Probably one reason why candidates in later years have been thought not so well qualified as formerly, is that their deficiencies are now much better ascertained. As a reason why some of the older graduates find so much difficulty in solving simple arithmetical problems and resort unnecessarily to algebra, it is suggested that candidates not being formerly actually required to be well versed in *arithmetic*, few of them were so;

but those admitted who graduated became, while at the Academy, well versed in *algebra*, and naturally give it the preference.

It may safely be asserted, that the Academic Board know quite as much about a candidate, from the results of the present written examination, as was ever learned from an oral examination of a few minutes. The charge that a written examination "is harsh and unwise, and is directly at variance with the mode of proceeding at subsequent examinations," was evidently made in ignorance of the facts above stated, and of the additional fact, that, upon questioning some of the members of a class at the Academy, it was found that the higher men preferred the oral method, and the lower men the written. As to encouraging "cramming," it appears from the statements of some teachers engaged in preparing candidates, that the Board is pretty successful in arranging the examinations so as to render cramming a failure.

General Fry also says, "The youth of true manliness with mind enough to master the studies is a better subject for receiving the West Point course in its full force, if he has just education enough to enter, than he would be with a greater amount of modern cramming. In other words, early cramming is opposed to the distinctive purpose of the West Point system, which is high development of reasoning power and thorough understanding of principles." The first of these assertions, of which no proof is offered, is remarkable in view of the fact that those who succeed best at the Academy have almost invariably received a much better preparation than is required for admission. How a young man can be injured for the West Point course by acquiring useful knowledge and habits of study before entering the Academy, is not readily perceived. In 1843, a Committee of the Academic Board said, "The greatest difficulties with which the teacher at the Academy has to contend, have their origin in the low standard of attainment required for admission." Professor Church expressed to the Commission of 1860 the opinion, that "one of the greatest obstacles to a successful prosecution of the course of studies at the Academy, is the want of previous proper study on the part of cadets of the simple elementary branches prescribed by law as requisite for their admission." Note that this opinion was given after an experience of twenty-two years as a Professor at the Academy.

Is it true that all education received before entering the Academy is mere worthless cramming? Is there not some force in the remark of the Board of Visitors of 1863, "To such preparation and cramming as cover the whole ground of a good English education, we can see no possible objection; the more of it, the better?"

The great merit of the West Point instruction is its thoroughness and its tendency to form habits of self-reliance. The aim is to have the cadet thoroughly understand the principles involved, seek for them in

what he studies, and rely upon his own mental powers rather than upon his text-book alone. He is also taught to retain his self-possession, little allowance being made for nervousness at either recitation or examination. This system has great advantages in training a young man for military service, but that it should be exclusively employed throughout a young man's education is very questionable. The course at West Point has also the advantage that a young man of good natural ability, especially in mathematics, may pursue it successfully with much less preparation than would be necessary for a college course; but if poorly prepared, he will have to make greater exertion, and will still be deficient in branches that should have been pursued before admission, and for which the Academy has not time. The idea of crowding into a term of four years nearly the entire school education of a young man will astonish all that have had much experience in educational matters.

Considering how much of the West Point course is given to mathematical and strictly professional studies, it is plain that even "cadets of rare aptitude and vigor of mind," who have had little previous study, must find themselves at graduation lamentably deficient in knowledge that men of even tolerably liberal education are expected to possess. And in the case of graduates who are held up as examples of what can be done by young men of good ability, but of little previous study, are not most of them in some respects discreditably ignorant? Moreover, training in mathematical studies is valuable as a mental discipline only in certain directions. If it renders one less liable to be deceived by conclusions not warranted by the premises, it also tends to carelessness in examining premises, to readiness to accept insufficient data as complete, and disqualifies to weigh evidence well when probability, and not certainty, is to be looked for. This is an additional reason why good attainments in branches not pursued at the Academy are very desirable. Indeed, one of the best preparations for the Academy is to be well fitted for college, some knowledge of algebra and geometry being included. More elementary branches are not to be neglected; in fact, with a really good knowledge of these, young men can, if diligent and energetic, do very well.

It has often been remarked that those who stand high in their class have, in almost all cases, been well prepared to enter. Of the twenty-five members of the highest two sections in the present fourth class, before January, all had before admission studied algebra and geometry, five had studied analytical geometry; all but one had continued their studies up to the time of entering the Academy. Fourteen of the twenty-five were from colleges or universities, nine were from high or normal schools, one from a public school, and one from a private school. On the other hand, of the twenty-two members of the lowest two sections, not one had been

at school for six months before admission, and some had not been at school for two and even three years. Yet these young men succeeded in passing the examination and entering the Academy; what were probably the qualifications of those rejected?

General Fry also remarks, "The law says the candidate shall be 'well versed in reading and writing.' The Regulations say he 'must be able to read and write the English language correctly (which is more than all college graduates can do), and shall have a knowledge of English Grammar.'" *Correctly* does not mean *faultlessly*; moreover, the very small proportion of candidates rejected in reading might have shown him that his view of the requirements in that branch was erroneous, unless nearly all candidates are remarkably good readers—which will hardly be asserted even by their greatest admirers. The fact is that rejection in reading and writing indicates that both are unmistakably bad. Of grammar, he says little; but is in error if he thinks, as he seems to think, that the Board arbitrarily requires for admission a certain percentage of the maximum in this or other branches, without consideration of the merits of the written papers of the candidates. Nothing like proficiency in grammar is, or can be, required. In the examination paper are a few plain, easy questions, taken from common school grammars; about twenty words to be parsed in a sentence by no means difficult, very ordinary parsing being accepted; about twenty-two sentences—also taken from school grammars—for correction in respect to grammatical errors. So imperfect is the knowledge of grammar possessed by most of the candidates admitted, that it has been thought necessary to give, in the English course, instruction in that subject, although the time for the purpose can ill be spared.

A great point is made in General Fry's article of the problems in arithmetic given to candidates in 1882. He probably has the impression that all those problems must be perfectly solved; that no failure is permitted. Such is not the case; the candidate receives credit for what he does, not only in problems that he solves more or less satisfactorily, but also in those which he fails to solve. Very few candidates receive a perfect mark in arithmetic. In an examination to test the candidates' knowledge, it is not wise to put only such questions as every one of them ought to be required to answer with entire correctness.

Appended will be found an indication of the arithmetical solution of the problems referred to, which will show how little ground there is to regard them as algebraical or unreasonably difficult. Indeed, there is reason to expect smiles upon some faces and blushes upon others, when, on one hand, the simplicity of the problems is considered, and, on the other, the confessions of inability to solve them. One hundred and twenty out of one hundred and forty-eight candidates solved sufficiently well to be admitted problems which some graduates, after pursuing the extensive and

thorough course in mathematics at the Academy, confess their own inability to solve!

As to what is rejected by the examination for admission, the following indications are worth considering. Arranging in order of merit in arithmetic, as determined by examination, the classes entering in 1878, 1879, 1880, and taking the lowest third of each class, making a total of 87 cadets, only 22 of that number, or about one in four, have so far escaped failure after admission. Taking the last 8 of each of these classes, or 24 in all, only 2 have so far succeeded, one of whom is doing well, and one is near the foot of his class. Taking the class of 1878 and counting up from the bottom, 25 cadets are passed before coming to one that did very well after admission. In the class of 1879, 45 cadets are passed before coming to one of the best men. In the class of 1880, 16 names are passed before finding one that did fairly well, and 35 names before finding one that did very well. In the classes of 1878 and 1880, the first in arithmetic was first in his class in studies at the Academy.

It is now submitted that General Fry's conclusion, "that the present system of examination does not conform to the law, or at least to a proper interpretation of it," if warranted by his premises, is still open to the objection that the premises themselves are unsound.

A comparison is made by him between the number of rejections under the old system of no examinations worthy of the name, and the number under the present system, naturally very much to the apparent disadvantage of the latter. It is true, as he says, that there is a higher standard of admission, and an introduction of new subjects; but it is not the written examination in place of the oral one, that makes the difference. It is rather the fact that formerly the examinations were hardly more than nominal, while they are now more nearly what the law requires. As has already been shown, the examinations prior to 1867 did not and could not ascertain whether the candidates were "well versed in reading, writing, and arithmetic;" the law was not complied with. In a report to the Academic Board made in 1842 by one of its Committees, are these words: "It is to be feared that a disposition to extend the advantages of the Academy to those who have not been able to acquire much previous knowledge, united to a reluctance, after a somewhat hurried examination, to return to their distant homes a large number, some of whom may be able to get along with credit, has induced the Academic Board heretofore, to admit many whose want of compliance with the requirements of the law has rendered them unable to proceed with the Academic course, and whose bad example has been highly injurious to their fellow cadets." [The italics are mine.] The Committee then proceeded to recommend, "that hereafter the examination on the few and simple subjects required for admission be more thorough and complete, and that all candidates who

do not fulfil the requirements of the law be rejected." In spite of this acknowledgement of non-compliance with the law, and the accompanying recommendation, the same laxity appears to have continued for many years; and it was only after the experiment of a five years' course in which to make up acknowledged deficiencies before admission had been tried and had failed, that new subjects were introduced and the examination was made something more than a name.

If it is true, as alleged, that candidates are not so well qualified as formerly, because, while the means of education are increased and improved, the expense is paid by the State instead of by the parents, thus placing education within the reach of all, whose is the fault and who should suffer? Ought encouragement to be given to the indolence and indifference of those who fail to profit by those liberal provisions? That there is at the present time some tendency to cover too much ground at the expense of thoroughness, is probably true; but that the preparation of candidates is upon the whole inferior now to what it was formerly, is believed not to be the fact.

From the records in the Adjutant's office it appears, that, while from 1838 to 1866 the number graduated in four years was 45.6 per cent. of the number admitted, from 1867 to 1877 the percentage was 53.2; an increase of one-sixth in the proportion of graduates to those admitted, and this with a higher standard of proficiency. Moreover, the increase in the requirements for admission has, as might have been expected, led to corresponding exertion to meet those requirements. While the present attainments of most candidates leave much to be desired, the young men are usually somewhat more carefully selected and prepared than formerly, and are rarely so disgracefully ignorant as many were under the old standard. In estimating the merits of the present system, the question is not merely how many candidates are rejected, but whether the system results in obtaining a higher average ability and preparation, and tends to raise that average still higher. As bearing upon the cause of the great difference in the numbers rejected, both of candidates and of cadets, in different years, the following remark of Colonel Delafield, the Superintendent, to the Commission of 1860, is of interest: "Rejections of candidates for admission increase and diminish in number, not apparently conforming to any rule, varying as the general average of talent varies in classes from year to year. Some years the classes are very inferior, and others are decidedly superior in average talents." Of course such a difference in talents affects also the number of failures of cadets.

The small number of 185 cadets at the Academy in June, 1882, out of a maximum of 312, is referred to by General Fry. This when explained shows the correctness of Colonel Delafield's views. In 1881, from about 20 districts no candidates reported; of 149 who did report, 61 were

rejected, leaving only 88, a number diminished to 80 before the examination in January, 1882. At that examination, so inferior in ability was a large proportion of the class, that 17 were found deficient, while at the examination in January, 1883, only 14 out of 119 were deficient in the class that entered in 1882. The reduction from the maximum number by 106 was due to the inferior average talents of the candidates of a single year, and to the failure to nominate on the part of some members of Congress. The class now numbers only 43 cadets. Another fact respecting the small number of cadets in the corps is that between 1877 and 1881 so many cadets had been turned back, mostly against the recommendation of the Board, that at one time they numbered more than 50 out of 250, or more than one-fifth of the corps. No one who knows much of the Academy need be told how rarely cadets turned back justify the leniency shown them, and how unreliable they are in studies. They sometimes appear to do fairly well in the daily recitations, but the examination usually reveals that they have no such mastery of the subjects studied as their daily marks would indicate. Of the 10 cadets found deficient in January, 1882, who belonged to classes above the fourth, five had been turned back from higher classes. The fact stated by General Fry, that of 102 entering in 1878, only 26 graduated in 1882, simply brings up another instance of a class originally of very inferior average ability. The circumstances, if fairly considered, will fully account for the reduced number of cadets in June, 1882, without inferring any undue severity on the part of the Board.

It is believed that under a higher standard of admission the quality of graduates, at least as far as attainments are concerned, has been improved, especially in the middle and lower parts of each class. The studies have not been much increased in amount, but the standard of proficiency is higher, and some pretty sharp lessons have been given to men in the middle of their class, who, thinking themselves safe in that position, have neglected their studies. There seems to be no reason to doubt that the recent graduates will compare favorably in all respects with the graduates under the old standard; at any rate, the Academy confidently relies upon the former for such a result.

We may here call for any satisfactory proof of what is apparently assumed by many, namely, that the best material for the Academy is most likely to be found among the young ignoramuses of the country; that mainly among them are to be found in a high degree the qualities desirable in the army officer. It may be well to remind the advocates of such a doctrine that mere reiteration of the same thing in various forms with high-sounding words is not proof; nor will the production of a few exceptional cases be sufficient. A writer, claiming to be a graduate, has recently gone so far as to assert that "men are often found deficient, who

are far more suited in manly courage, good common sense, sound judgment, and physical endurance, for the duties of an officer, than two-thirds of those left." The late war was the opportunity for such men to prove their superiority, or even equality. Did they do it? The number of those who had been rejected at the examinations for admission, or found deficient at subsequent examinations, was considerably greater than the number of graduates; now, from that number, not including those who resigned or otherwise voluntarily left the Academy, produce, not a few exceptional cases, but enough to establish as a rule superiority or equality. The thing cannot be done. Possibly a few instances may be found of good service rendered by such men, but not one of them attained the high reputation of some of the graduates. Even if it is true that now and then a young man of ability who is found deficient might be retained for the military service, under a more lenient system, would that compensate for the general lowering of the standard of requirement, and the consequent inferior average intelligence of the graduates? It is not alone the few brilliant leaders that tell in the result of a war, as our recent wars have well shown. According to General Scott, it was not only to the able generals in the Mexican War that success was due, but largely to the intelligent graduate officers from West Point, not one of whom was then a general, and few of whom were even field officers. Could not the same be said of success in our Civil War? When Napoleon called the Polytechnic School the "hen that laid him golden eggs," was the school furnishing him with a few brilliant generals, or only with a large number of highly intelligent officers?

Was the West Point Academy originally established for those who had no capacity to study, or in order that the "extensive and complicated art of war" might have the "much study" demanded? If mainly among ignorant young men are to be found the best soldierly qualities, might not a board be organized, which, after a brief oral examination of each candidate, could form a close estimate of his character and natural ability, and, if he possessed in a high degree those qualities with little capacity for study, recommend him for immediate appointment as an officer, without subjecting him and his friends to the mortification of his failure at West Point? Why has not something of this kind been attempted by boards for the examination of candidates from civil life for appointment in the army?

What proof is offered of the assertion, that exacting a higher degree of mere acquirements than formerly "tends to the admission of 'crammed' candidates and the rejection of good raw material, and is not likely to further the purpose of the institution?" Is no diamond valuable unless rough and uncut? or is every rough, dirty stone a diamond? Are colleges, in requiring for admission certain attainments, admitting crammed

men and rejecting good raw material, and is that their object in raising their requirements in the last few years? Is the view evidently taken by colleges, that considerable preparation, even in cases of rare natural ability (real or supposed), is a necessary preliminary to the college course, correct or incorrect? In rejecting ignoramuses, the Academy may, forsooth, reject one of good natural ability and high character! Even if he has the character and ability, is he properly prepared to pursue the course of study? and with that character and ability, how is he so ignorant? Whose fault is it that he is not properly prepared to enter under the very moderate standard of admission? With the high estimate universally placed upon the value of education, with the liberal provisions throughout the country for putting the means of education within the reach of the poorest, with the examples before him of the highest distinction achieved by those whose early advantages were far less than his, how does it happen that a young man of good ability, and strong, energetic character, has not been able to obtain even a fair common school education? And for the chance of securing one such man, perhaps a hundred worthless young men are to be admitted only to cumber the Academy until found deficient! If the wheat be winnowed, a few grains will be thrown out with the chaff; therefore grind wheat and chaff together, and trust to future sifting and bolting to separate the flour. How much better and cheaper the flour will be!

But we are told that even in the cases of those found deficient in a subject taught at the Academy none of the instruction would be lost. The answer is, that the instruction would be wholly lost so far as its object is concerned; it is intended for the training of a certain number of young men for the military service, not to be, in homœopathic doses, "imparted and diffused in the Congressional District entitled to it." Besides, is no consideration to be given to the wasteful expense of supporting at the Academy two or three cadets for every one that graduates?

It is said that the present system of examination for admission "gives no consideration to lack of years or lack of opportunities for schooling. It calls for just as much book knowledge from the Western farmer boy of 17 years as from the man of 22 from Boston, the seat of learning. No account is taken of the fact that the training of the former may have been such as to give high development to traits essential in the genuine soldier, industry, energy, fidelity, obedience, courage, perseverance, and self-reliance."

If, on the part of the candidate, certain qualifications are necessary, how can any consideration properly be given to the causes of the lack of them? Is the whole nation to suffer for the misfortune—not to say negligence—of the individual? Is a discrimination to be made in favor of candidates from the West against those from the East? Will the West

take as a compliment the suggestion of a necessity for such a discrimination? The records of the Academy do not show that the success of candidates or cadets is in proportion to their years, but if such is the case, what is to be said about the Western man of 22 and the Boston boy of 17? It is not at all necessary to reside at the "seat of learning" in order to acquire all that is demanded for admission. How does it appear that the training of the Boston boy may not have been "such as to give a high development to traits essential in the genuine soldier," although, as sometimes happens even in Boston, he has failed to acquire the necessary book knowledge? And how is it proposed to ascertain the possession of such traits? Simply by converting the Academy into an experimental school for the purpose, with a chance of finding them perhaps in one young man out of a hundred. If with the qualities described a young man is not a dunce, why is he so ignorant? If he is a dunce, why send him to the Academy? Even if he is admitted, he may afterward be found deficient, and a valuable man lost to the service.

It is further said, that "the tendency of the high standard of admission and the present mode of examinations is to discriminate against the poorer Congressional Districts and Territories, in the enjoyment equally with the rich of the right of representation at the national Military Academy." Such remarks are in effect appeals to some of the worst passions of human nature; and, though often made, are much to be regretted. The cause that requires them must be indeed weak. Does the right of representation entitle a district to demand for such a resident as it can or will select, whether he is qualified or not, an official position in the service of the nation, when other districts can and will furnish persons who possess the necessary qualifications? Is the nation in selecting its servants to be restricted to exacting no higher qualifications than those possessed by the people of the poorest and most remote districts? Are such districts to give the law to all the rest, even to their own detriment as parts of the great whole? The nation is to be kept down to the level of the lowest! No poorer people are to be found in any part of the country than are to be found in our large cities. May not some of the consideration for the poor be well bestowed on those of the older and richer States and districts, where they are much more numerous? No principle of justice demands that cadet appointments shall be equally distributed throughout the country without regard to fitness for the appointment; and no similar distribution is made by any nation. In France, the students in the military schools are selected by competitive examination from the young men of the whole country, without regard to geographical apportionment. In this country, cadet appointments are based on Congressional representation, giving an equal chance to all districts. With the advantages offered, the Academy might easily be filled with young men of good ability and character.

Far from demanding the acquirements necessary to enter our colleges, the nation requires only what can be attained in the common schools of the country, and less than what is necessary to pursue advantageously the course at the Academy. If under such circumstances, any part of the country cannot or will not furnish its quota, ought any further concession to be made? Note, too, that a low standard of admission, while favoring the entrance of a candidate, by no means insures his graduation. But the district has as much right to a representation in the army as at the Academy. Does it not logically follow, that, if the standard must be lowered to favor admission from the poorer districts, it must also be lowered to favor graduation? And even if this be done, a larger portion of candidates well prepared will graduate than of those ill-prepared, and thus some districts will have a larger proportion of graduates than others.

In General Fry's statement of the proportion of candidates from different States and Territories rejected, he says that the proportion from Idaho rejected is five-sixths, but omits the fact that from Arizona, Dakota, and Wyoming none were rejected. From his statement, it appears that the proportion of candidates from Connecticut rejected is one-seventh, while from Vermont and New Jersey the proportions are respectively less than one-twentieth and less than one twenty-third; and it may be added that the proportion from Utah and New Mexico is one-eighth. That is, the proportion from Connecticut rejected is about three times the proportion from Vermont and New Jersey rejected, and a little greater than the proportion from Utah and New Mexico rejected. Was this difference due to any superior advantages on the part of the boys of Vermont and New Jersey—to say nothing of Utah and New Mexico—or simply to more judicious selection? Members of Congress are by no means always governed in their nominations by consideration of fitness, and even when so governed, their zeal is not always according to knowledge.

Is not the failure of a district to furnish sufficiently prepared candidates more often due to want of will than to want of ability? Some of the worst candidates come from the older and richer districts, while some of the best are sent from the poorer districts. It is by no means the latter only that would take advantage of a low standard of admission to send poor material.

The circumstance is noteworthy that most of those who raise an outcry about the disadvantages of the poor man are not themselves poor. Cannot the poor man, if hurt, cry out for himself? Said a distinguished gentleman, well known for his life-long devotion to equal rights for all, "I never knew any one to claim for the poor man rights or privileges other than those of all citizens, who did not have some selfish motive, who did not have in view some advantage for himself. The poor man has no rights greater or less than those of any other citizen." Then has the

poor man's son any more right than the son of a rich man to a place for which he is not qualified?

In time of war or insurrection, the interests of the whole nation, rich and poor alike, are at stake; all desire to see the conflict brought to a speedy and favorable conclusion. Is it most for the interest even of the poorer families throughout the country, that the army should then be led by the most skilful and accomplished officers, or that perhaps that a dozen young men annually from such families should be educated at public expense? There are many examples to show that the poor man's son often can and does—nowhere more frequently than at the Military Academy—leave far behind him the sons of rich men. The great obstacle to success at West Point, as elsewhere, is not poverty of purse, but poverty of intellect and character—a poverty confined to no one class of men. If the standard of admission were lowered as proposed, which would be most likely to obtain an appointment as cadet, the studious, intelligent, energetic son of a poor man, whom the Academy would gladly welcome, or the lazy, stupid, sluggish son of some rich or influential man? The plain fact is, that much of the special interest in the poor man means one word for him and at least ten for somebody else.

A very serious objection to the admission of candidates with little or no examination is found in the past experience of the Academy. Among young men so admitted were not a few who soon saw that they could not pursue with any hope of success the prescribed course. They therefore became regardless of regulations, neglected their studies, and by their example had an injurious influence upon other cadets. So long as they kept within certain bounds in conduct, there were practically great obstacles to getting rid of them before the January examination. References to the trouble they caused are to be found in the records of the Academy. There is reason to believe that a return to the old system of admission would be followed by a renewal of the old trouble.

On the importance of previous study to the cadets as well as to the Academy, the following remarks of the Board of Visitors of 1879 are in point: "The fact is unquestioned that those cadets whose previous education has been generous and severe have very great advantages in the competition of the Academy. It is no more than just to the young men themselves, as it is to the country, that the cadets should not only enter upon the competition of Academic life with the best possible preparation for their subsequent studies, but that they should prosecute their competitions upon as nearly equal terms as possible. The truth cannot be too often nor too earnestly repeated that the Academy exists for the service of the country, and that its sole design is to find and train for the country those who will prove the most accomplished and serviceable officers. It would seem to be a self-evident truth that the nation has a right to the services of the

most promising of its youth who are willing to employ their energies and their lives in its defence against domestic disorder or foreign invasion."

Nearly all the Boards of Visitors since 1866 have recommended raising the standard of admission, and in the report of the Board of 1880 will be found the following remarks, contrasting strongly with the views expressed by General Fry and some other graduates: "The Board by no means advise such a radical change in the standard of admission as would exclude from the institution all save those who are thoroughly instructed in every branch of preparatory study; but they are strongly of the opinion that the best interests of the service and the truest economy to the country demand *that the present standard of admission should be materially raised, or that much severer examinations should compel the candidate for admission to be absolutely proficient in the requirements of the present low standard*—a standard greatly below that required in similar European establishments." [The italics are mine.]

In fact, the Boards of Visitors up to the present time have thoroughly considered the question of requirements for admission in every aspect, not excluding the consideration of what should be taken into account respecting the poorer people or districts of the country, and far from recommending any reduction of those requirements, they are nearly unanimous in recommending an increase. Now consider that these Boards are composed of presidents of colleges, professors, high officers of the army and navy, and distinguished men from all parts of the country and from all professions, and then say whether the greater weight should be given to their concurrent opinion, or to the often hastily conceived and conflicting opinions of a few graduates of little or no experience as teachers, and the biassed judgment of friends of incompetent candidates and cadets.

To prevent possible misapprehension, it may be well to say here, that there is no intention of imputing to General Fry any other than honorable motives, although some of his opinions may coincide with those of persons who are at least not unprejudiced; and while it is believed that he is in error in some of the views he has expressed, the Academic Board will no doubt seek to turn to profit his suggestions, by additional attention to making the examination for admission such as to reject sham preparation and accept only that which is genuine.

The hostility excited by the rejection of candidates is certainly not greater, and is probably less, than that caused by the failures of cadets, the number of which would be greatly increased under a lower standard of admission, unless the present moderate standard of proficiency in the course at the Academy should be considerably reduced. It is very probable that some of those who advocate a low standard of admission are not unaware that the reduction of the standard of proficiency would inevitably follow, and that they see no objection to such a result.

Is not the best remedy for the hostility due to failures of candidates and cadets, to go to the root of the evil, the bad system of selection, and to encourage a system depending upon personal merit instead of personal favoritism; thus securing better material, and greatly diminishing the number of failures? A fact bearing upon this point is, that, at the celebrated Polytechnic School in Paris, with a system of selection by competitive examination, only one or two per cent. of the pupils fail to complete the course, while at the Military Academy the proportion of failures exceeds forty per cent.

The present very low standard encourages applications for appointments on the part of young men who are misled by that standard, naturally thinking that the subsequent requirements are correspondingly low. Such young men would often be hindered from attempting to enter under a higher standard, not only by the difficulty of passing the examination for admission, but also by the better indication of what the course at the Academy really is. Besides, in the examination some lack of thoroughness might be compensated by the wider range.

While the criticisms and suggestions of all who are honestly and sincerely interested in the good of the Military Academy, and who desire to see it advancing in sound reputation and in usefulness to the country, are received and welcomed with an earnest desire to profit by them, little attention is due to the animadversions of a few selfish men, who, placing their own interests far above those of the public, assail the Academy because of disappointed hopes in regard to their friends. So long as the officers of the Academy are true to their duty, such men may be sure that their friends will, as candidates or cadets, stand only upon a precisely equal footing with all others, high or low, rich or poor; and that the honest boast of West Point of rendering equal justice to all will continue to be fully warranted.

Against all unjust hostility, the best defence will be renewed efforts to increase the usefulness of the Academy, and to continue to deserve the encomium "that there is at least one public institution in the United States of which it can be truly affirmed, that the more it is investigated the better it appears." From the time when a Superintendent many years ago left the Academy, under circumstances not wholly creditable to him, and thenceforward labored earnestly to destroy it, there has never been a time when more or less hostility to the institution did not exist; much of which has been, and is still, due to misrepresentation and even deliberate falsehood.

On this point may be quoted the remarks of the Board of Visitors of 1878: "Finally, in reviewing the reports of previous Boards of Visitors to the West Point Military Academy, this notable and curious circumstance reveals itself, namely, that every Board previously acting and made

up of selections of citizens from all sections of the country, from all parties and religious denominations, and representing a great variety of professions, business, or occupations, has gone away from its work unanimously recommending the Academy to the confidence and support of the people of the country. And the present Board, while cordially reaffirming this judgment of their predecessors, would further add, that they feel confident, if the people of the United States would but examine for themselves into the origin, development, and present working of the Academy, and the service of its graduates, and not allow themselves to be unduly influenced by those who speak without adequate information, or worse, by those whose mission it would seem to be to induce the people to believe lies, then West Point, in place of being in any degree an object of popular prejudice and suspicion, would, on the contrary, be rather an object of pride to the whole nation."

It is not to be forgotten, that, especially in this age of progress, not to advance is to retrograde ; other educational institutions, military as well as civil, are emulously pressing forward in the march of improvement, and the rear is no place for West Point. When the requirements for admission and the subsequent courses of study are elsewhere largely increasing, it is no time to reduce the requirements at the Academy to the standard of the attainments of the idle and incompetent.

Finally and principally, there are ever to be considered the interests of the great nation—second to none of the nations upon earth—that, on the recommendation of the Father of his Country and others whom it has delighted to honor, established the Military Academy, and has, for so many long years, through good report and evil report, generously sustained it. If, in the hour of conflict and deadly peril, the nation has in the past seen much reason to regard its confidence as not misplaced, shall it in the future fail to find that confidence still justified, and to receive a full return for its liberality? Shall any act of ours tend to sanction the principle of getting as much as possible from a generous people with the smallest return they can be induced to receive—the principle of abusing to the profit of a few what is intended for the benefit of the whole? No : the glory of West Point, the glory of its graduates, is not in the personal advantage of any one, but in the utility and integrity of the services that have been, or may hereafter be, rendered to the whole country.

APPENDIX.

HOW CORRECTLY SOME CANDIDATES ADMITTED WRITE THE ENGLISH LANGUAGE.

The spelling of three candidates admitted in June and September, 1882.

CANDIDATE X.

comrades.	<i>comrads.</i>	conscious.	<i>conscience.</i>	epicure.	<i>ephicure.</i>
others.	<i>outhers.</i>	existence.	<i>existance.</i>	conducive.	<i>conduceive.</i>
dealt.	<i>delt.</i>	exalted.	<i>exorted.</i>	olfactory.	<i>alfactory.</i>
serried.	<i>seared.</i>	drum's.	<i>drun.</i>	precarious.	<i>precerious.</i>
assembled.	<i>assend.</i>	guards.	<i>god.</i>	embellish.	<i>embellish.</i>
faith.	<i>face.</i>	codicil.	<i>catinell.</i>	disastrous.	<i>desasterous.</i>
loftiest.	<i>loftess.</i>				

15 errors charged.

CANDIDATE Y.

plow.	<i>cloud.</i>	shot.	<i>shoot.</i>	sentinel.	<i>sentenel.</i>
business.	<i>business.</i>	serried.	<i>serrid.</i>	discordant.	<i>discordent.</i>
pursuits.	<i>pursuities.</i>	comrades.	<i>comrads.</i>	simultaneous.	<i>simultanious.</i>
weary.	<i>dweary.</i>	conscious.	<i>concious.</i>	embellish.	<i>imbellish.</i>
devotion.	<i>devoted.</i>	existence.	<i>existance.</i>	inheritance.	<i>inheritence.</i>
throated.	<i>throughted.</i>	solemn.	<i>soloun.</i>		

14 errors charged.

CANDIDATE Z.

imagine.	<i>immagine.</i>	hesitation.	<i>hessitation.</i>	Solomon.	<i>Soloman.</i>
especially.	<i>espechily.</i>	ponderous.	<i>pondros.</i>	courtier.	<i>courterw.</i>
sycophant.	<i>cycophant.</i>	intimation.	<i>intination.</i>	monarch.	<i>monarck.</i>
stratagem.	<i>strategem.</i>	stupendous.	<i>stupendos.</i>	miracle.	<i>miricle.</i>
disappoint.	<i>disopoint.</i>	radiant.	<i>raident.</i>	fain.	<i>feigns.</i>
indignant.	<i>indignent.</i>	hue.	<i>view.</i>	ne'er.	<i>n'e'r.</i>
enthusiast.	<i>enfusiast.</i>	culled.	<i>colored.</i>	crystalline.	<i>crystalline.</i>
saccharine.	<i>saccharin.</i>	bowers.	<i>bough.</i>	choicest.	<i>choisest.</i>

16 errors charged.

The method of conducting the examination in writing and orthography is as follows: Short selections in prose and in poetry are slowly and distinctly read, and the candidate writes them as dictated; these selections are then slowly read again, the candidate following the reading on his written work and correcting errors. A few separate words are also dictated and written down, each word being repeated in a short sentence in order more clearly to indicate the word to the candidate.

Even with these precautions against mistaking the words, and when in many cases it is not easy to see how the candidates can have honestly made such a mistake, liberal allowances are made, as will be seen by comparing the foregoing lists with the number of errors charged in each case.

PROBLEMS IN ARITHMETIC GIVEN TO CANDIDATES FOR ADMISSION.

June, 1882.

1. How many times will £641 14s. 11½d. contain £2 15s. 6¾d. ?

Solution.—Reduce to pence and decimal of a penny and then perform the division.—*Reduction and Division.*

2. Find the smallest number greater than 3, which, divided by 54, 69, and 132, will give in each case a remainder of $2\frac{3}{10}$.

Solution.—Find the least common multiple of 54, 69, and 132, and add to it $2\frac{3}{10}$.—*Application of Least Common Multiple.*

3. On October 12, 1881, A was 33 yrs. 6 mos. 16 da. old, and B was 42 yrs. 3 mos. 2 da. old ; on what day, month, and year, was B exactly five times as old as A, and why did he not remain so ?

Solution.—When B was five times as old as A, the difference of their ages, which remains the same, must have been $\frac{2}{5}$ of B's age at that time ; or B's age must have been $\frac{5}{2}$ of that difference. Find that difference, subtract $\frac{2}{5}$ of it from B's age at the given date, the remainder will be the difference in time between that date and the date required, then find the latter. The ratio of B's age to A's age, when B's age was five times A's age, was an improper fraction ; adding the same number to both numerator and denominator increases the latter in a greater proportion than the former, hence diminishes the value of the fraction.—*Well known Arithmetical Principles.*

REMARK.—The effect of considering the additional day in leap year was foreseen ; but it was decided to receive the solution as satisfactory, whether the day should be reckoned or not.

4. A does $\frac{1}{10}$ of a piece of work in 14 days, he then calls in B, and they finish the work in 2 days. In how many days could B do the work alone ?

Solution.—In 1 day A can do $\frac{1}{14}$ of $\frac{1}{10}$ or $\frac{1}{140}$ of the work ; in 2 days, $\frac{2}{140}$ or $\frac{1}{70}$; when B was called in $\frac{9}{10}$ of the work remained to be done, and A doing $\frac{1}{10}$ in the 2 days, B must have done the other $\frac{9}{10}$ in 2 days ; therefore B can do $\frac{1}{10}$ in 1 day, or $\frac{1}{10}$ = the whole in 10 days.—*Simple Analysis.*

5. Multiply by 4.32 by .00012.

Solution.— $4.32 \times .00012 = .0005184$.—*Decimals.*

6. Explain the reason for placing the decimal point in the answer to example 5. [The rule for so doing is not the reason.]

Solution.—Writing the given numbers as vulgar fractions and then multiplying, the numerator of the product will be 432×12 ; and the denominator 1, followed by a number of ciphers equal to the sum of the numbers of ciphers in the denominators of the two factors, or equal to the sum of the numbers of decimal places in the two numbers as originally written. To write the product as a decimal, the decimal point must be so placed as to make the number of decimal places in the product equal to the number of ciphers in the denominator of the product written as a vulgar fraction ; or equal to the sum of the numbers of decimal places in the two numbers as given.

7. If 35 men do a piece of work in 24 days, in how many days will 24 of that num-

ber do a piece of work $7\frac{1}{2}$ times as great, provided the second set of men work twice as fast as the first, but only work one-third as long in the day?

$$\begin{array}{l} \text{Solution.}— \\ \left. \begin{array}{l} 35 \times 2\frac{1}{2} : 35 \\ 1 : 7\frac{1}{2} \\ 2 : 1 \\ \frac{1}{3} : 1 \end{array} \right\} :: 24 : \frac{24 \times 35 \times 7\frac{1}{2} \times 1 \times 1}{35 \times 2\frac{1}{2} \times 1 \times 2 \times \frac{1}{3}} = 126, \text{ or} \\ \frac{24 \times 7\frac{1}{2} \times 3}{2\frac{1}{2} \times 2} = 126. — A \text{ simple problem in Compound Proportion or Analysis.} \end{array}$$

8. Separate $772\frac{2}{3}$ into three numbers which shall be in the same proportion as $2\frac{1}{2}$, $\frac{7}{10}$, and $\frac{3}{8}$.

Solution.—Reducing $2\frac{1}{2}$, $\frac{7}{10}$, $\frac{3}{8}$ to a common denominator, we have $\frac{21}{8}$, $\frac{7}{10}$, $\frac{3}{8}$, or three fractions in the same proportion as their numerators:

$$\begin{array}{l} 25 + 7 + 6 = 38. \quad \frac{772\frac{2}{3}}{38} = \frac{2318}{3} \div 38 = \frac{61}{3}, \quad \frac{61}{3} \times 25 = 508\frac{1}{3}, \quad \frac{61}{3} \times 7 = 142\frac{1}{3}, \\ \frac{61}{3} \times 6 = 122. — Simple Proportion. \end{array}$$

9. How many 15ths are there in 1.03?

Solution.—In 1 there are 15 fifteenths; and in 1.03, $15 \times 1.03 = 15.45$. — *Vulgar Fractions.*

10. At a game of ball, A wins 9 games out of 15 when playing against B, and 16 out of 25 when playing against C. How many games out of 118 should C win when playing against B?

Solution.—B wins 6 games to A's 9, or $\frac{2}{3}$ of a game to A's 1; C wins 9 games to A's 16, or $\frac{9}{16}$ of a game to A's 1; therefore, C in playing against B will win games in the proportion of $\frac{9}{16}$ to $\frac{2}{3}$, or $\frac{27}{64}$ to $\frac{16}{64}$, or 27 to 16, or 27 to 32; therefore, out of every 27+32=59 games C will win 27, and $\frac{27}{59}$ of 118=54. — *Simple Analysis and Proportion.*

September, 1882.

A cistern can be filled by a pipe in 18 minutes, and by another in one-third of an hour, and can be emptied by a tap in two-thirds of an hour; how much of the cistern will be filled in 10 minutes, all being open?

Solution.—One-third of an hour = 20 minutes, two-thirds of an hour = 40 minutes. In 1 minute the first pipe will fill $\frac{1}{18}$ of the cistern, the second will fill $\frac{1}{40}$, and the tap will empty $\frac{1}{60}$; all being open, $\frac{1}{18} + \frac{1}{40} - \frac{1}{60} = \frac{5}{144}$ of the cistern will be filled in 1 minute, or $\frac{5}{144} \times 10 = \frac{50}{144} = \frac{25}{72}$ in 10 minutes. — *Simple Analysis.*

A wheel 5 feet in diameter makes 2500 turns, and goes 6 miles. The circumference is 3.1416 times the diameter; how much did the wheel lose by turning round (that is by sliding on the ground or rail)?

Solution.— $5280 \times 6 = 31680$ —number of feet in 6 miles; $3.1416 \times 5 \times 2500$ —number of feet described by the circumference of the wheel in its revolutions: $39270 - 31680 = 7590$ feet. — *Simple Arithmetical Principles.*

The stage leaves Rousley at 12:30 P. M., and travels 15 miles in two hours. How far can a boy travel in the stage, so that travelling $3\frac{1}{2}$ miles an hour he may reach Rousley at 2:45 P. M.?

Solution.—The distance travelled outward in the stage being equal to

the distance travelled back on foot, and the rate of travel in the stage being $\frac{1}{2}$ = $7\frac{1}{2}$ miles an hour, and that on foot $3\frac{1}{2}$ miles an hour, the time of travel by stage is to the time of travel on foot as $3\frac{1}{2}$ to $7\frac{1}{2}$, or the times are inversely proportional to the rates of travel; the whole time is $2\frac{1}{2}$ hours, $3\frac{1}{2}$ to $7\frac{1}{2}$ = 7 to 15, $7 + 15 = 22$; $2\frac{1}{2} \times \frac{7}{22}$ = time in stage, $2\frac{1}{2} \times \frac{7}{22} \times \frac{1}{2} = \frac{7}{8} \times \frac{7}{22} \times \frac{1}{2} = \frac{49}{176}$ = $5\frac{1}{176}$ miles. — *Simple Proportion.*

REMARK.—This problem was taken from a list of examples in Arithmetic, headed "Examination Paper, Arithmetic, for Boys under 13 years."

Necessary explanations are given to candidates, so that they may fairly understand what is required in each problem.

This examination paper is so arranged as to require for about two-thirds of the problems a good knowledge of the simplest fundamental operations of arithmetic, combined with accuracy in the work. The remaining third of the problems are such as to demand something more than mere mechanical accuracy, but are surely not to be regarded as unreasonably difficult. A candidate who should solve correctly all the simpler problems would be successful in arithmetic, even if he wholly failed to solve the more complex problems; but some failure in the former may be, and often is, compensated by solving one or more of the latter. Problems 3, 4, and 10 might have been neglected by the candidate without causing his rejection, provided he had solved correctly all the rest. Some candidates much prefer problems requiring thought to those whose solution requires little more than a mechanical application of rules. It is always suggested to candidates at examination that they should solve first the simpler problems, and afterward take up the more difficult problems.

DISCUSSION.

GENERAL HANCOCK—Gentlemen, you have heard a valuable paper read. There are many gentlemen present, members of the Institution, and others who are not, distinguished as educationists, who understand this subject well, and we shall be glad to hear from them any suggestions as to its treatment.

GENERAL JAMES B. FRY—*Mr. Chairman and Gentlemen:* I wish to express my gratification at the able and interesting paper just read by Professor Andrews. I have no doubt he will in due time receive from this meeting a hearty vote of thanks. I am personally indebted to him for the kind terms in which he has alluded to me. I wish to say that I disclaim any intention in this discussion of criticising the general methods of the Academy. My comments here have been in respect to the manner of getting material, not as to the use made by the Academy of the material confided to it. On this point my opinions do not result from any action of the Academy in particular cases, nor have they been hastily formed. A paper read by Professor Michie before this Institution December 10, 1879, and the discussion following it, are printed in our Journal (Vol. 1, No. 2.) My remarks on that occasion are given in the Journal as follows: "There is one point frequently discussed touched upon in the Professor's papers to-night, to which I will ask a moment's attention. It is the question of raising the standard of admission to the Military Academy. It seems to me that raising the standard would not be quite consistent with the large claims we make in favor of the West Point system of education. We insist, and I think with good reason, that the great merit of the Military Academy in its intellectual relations is the *mental training* it affords; that in a way and in a degree peculiar to itself it develops the reasoning powers, gives the scope and grasp to the mind, which enables it to deal promptly and vigorously with the various problems of life as they may be encountered from day to day; and we attach a very subordinate importance to the mere acquisition from the text-books or lectures of ascertained facts or accepted theories. We claim, further, that the extended and rigid course of mathematics prescribed for the Academy, and the peculiar manner in which that course is taught, are the principal means through which the desired mental training is secured. These things being so, it seems to me that the best material the Academy can have to work upon is that which can be admitted under a standard about like the present one,* which, though low, gives as a general thing reasonable assurance of sufficient mental capacity on the part of the candidate to receive the West Point system and assimilate it in the easiest and most effective way. Of course the more the cadet can receive of this system the better. I assume it is admitted that, speaking generally, the candidates who present themselves have acquired what knowledge they possess under a system entirely different from that of the Military Academy; that they have learned by rule and rote, or, in other words, that their education is to a great extent a course of cramming, which I am inclined to think the common school system of the day is encouraging. If this is true, as I assume it to be, raising the standard of ad-

*When this remark was made I had the old standard in mind, and did not know how much the standard had been raised in the last few years,

"mission at West Point would be calling for more cramming. The candidates would "have to increase the amount of their acquirements, but of course could not be expected "to change the system under which education such as theirs is given throughout the "country. The additional cramming would not, it seems to me, facilitate the mental "development aimed at by the West Point system, and might possibly have the effect of "retarding it."

In the paper which I read on the 18th November, 1882, to which the Professor has just replied, I elaborated the foregoing views, and gave some statistics and other evidence in support of them.

In connection with the subject of getting material for the Academy, I alluded in general terms to the purpose of the institution. The Professor has treated that point pretty thoroughly, and I think, in relation to it, there is a fair and square issue between us. I understand him to hold that the intention of the law is that the Military Academy shall have *the best* material in the land. I do not look upon that as the intention of the laws creating and providing for the institution, nor as desirable. Other professions and occupations should be considered. The church, the law, medicine, etc., etc., have a claim equal at least to that of the army for *the best*. It is difficult to agree upon the original or present purpose of the Military Academy. I understand it to be the intention of the law, however, to distribute the appointments to it over the whole country. In that I see there is a direct difference of opinion between the Professor and myself. As he stated in his introductory remarks that he had the co-operation of his associate Professors in the preparation of his paper, I suppose we may regard what he has said as the West Point view. I accept it as such, and admit that the side is well put. I understand the Professor to mean that it would be a wise proceeding for the Government, if it found the best material each year from New England say, to accept the whole batch of cadets from that section. I dissent from this. I regard the Academy as national, and think it should work on material from every district in the United States; and I am sure there is no district that cannot furnish somebody who can comply with the requirements of the laws if they are properly administered. The Professor has dwelt upon the fact that Boards of Visitors have favored a high standard of admission. In fact, I may say that these reports are the authorities he relies upon. This is an argument of apparent importance; but I must say that it seems to me the reports of Boards of Visitors on this point are not entitled to the consideration which we might suppose from the composition of the Boards. If, instead of Boards of Visitors as at present constituted, there was a Board of Supervision, a Supervisory Board of Education, composed of the same members from year to year, made responsible jointly with the Academic Board for the rules of admission and the course of instruction, I should have great respect for its report. But quite the reverse of that is the case. From an experience of five years as an instructor and as adjutant and secretary of the Academic Board at West Point, and from pretty close observation since, I am led to think that Boards of Visitors adopt many of the opinions of the Academy, and on many points their reports are in reality West Point speaking by another voice. I do not mean to assert that Boards of Visitors give themselves away, but they are, perhaps unavoidably, influenced, if not largely governed, in many things by the West Point opinion, which is not only a very plausible, but a very persistent one upon all matters affecting the Academy. The result is that the Board of Visitors—a temporary body—instead of advising the Academy in educational matters for which the Academy is responsible is in reality advised by the Academy. I cannot recall all the points in my paper upon which Professor Andrews has commented. I shall notice all I remember. He criticised my statement that the regulations increase the severity of the law, and the Academic Board increases the severity of the regulations in the matter of the requirements for admission.

I do not think he has proved me in error on that point. The law says the appointee shall be "well versed" in arithmetic, etc. The regulations say he shall perform with "facility and accuracy," etc. I make a distinction between the meaning of these terms, and regard the latter as exacting more than the former. In my opinion, it is in the power of the Board to proceed more rigidly under this regulation requiring "facility and accuracy" than is contemplated by the law, which merely requires the appointee to be "well versed," etc. As to the other point, that the Board exceeds the regulations, I submit the questions asked last June. If they are so simple, as the Professor says, that inability to solve them will produce smiles on some faces and blushes on others, then my assertion that the Board has enlarged upon the regulations is not sustained. That I leave to others for decision, remarking only that in a letter which I shall soon read Colonel Lazelle, late Commandant of Cadets, says: "I think that the tendency and the actual present practice is to exact everything possible within the Board's construction of the statute. I remember on one occasion calling attention to the fact that one of the printed problems was a subject in alligation which I regarded as beyond elementary proportion, and therefore beyond even the requirements of the Military Academy regulations for admission of candidates" Before he began his address the Professor distributed in this assembly printed copies of the questions asked in June last, *with the solution in each case given with the problem*. If the problems are so simple that men ought to blush at being unable to solve them, why was it necessary for the Academy to prepare and print solutions of them for such a meeting as this? I say with frankness and sincerity that the solutions confirm me in the opinion that these problems, taken as a whole, are not a proper test in arithmetic for admission to the Military Academy. If, says the Professor, those problems are so difficult, how is it that so many of the candidates of 1882 were admitted upon them? That question, I confess, puzzles me almost as much as the problems did before they were made easier by being shown how to do them. The only answer which occurs to me is that the candidates of that year may have been unusually well *coached*. Possibly a large proportion had been prepared at the special schools of Colonels Symonds and Huse. Colonels Symonds and Huse are both graduates, and former instructors at the Academy. I have nothing to say against their institutions. On the contrary, I believe they are good schools, and the higher the West Point standard of admission the better for them; and with the present high standard, the sooner an appointee to the Military Academy gets into one of them the better for him, provided he can stand the expense. But I invite attention to the probability that their special character, if not their existence, is due to the modern standard of admission at West Point, and if special preparation is necessary for admission, as indicated by these schools, I suggest the question whether or not the Government should establish and regulate the schools for it. Upon the subject of the present requirements and the necessity for special preparation to meet them, Colonel Huse has issued a circular which is quite significant. It is as follows:

TO YOUNG MEN INTENDING TO ENTER WEST POINT.

In the ten years, 1847-1856, the number of candidates appointed to West Point was 962. Of this number 132 (13½ per cent.) failed to enter.

In the next ten years 1,082 were appointed, and 288 (26 per cent.) failed to enter.

In the next ten years, 1867-1876, the latest date for which I have the official report of appointments and failures, 1,560 were appointed, and 697 (44½ per cent.) failed to enter.

It thus appears that while thirty years ago nearly seven-eighths of the appointees to West Point became cadets, of late years nearly one-half have failed to enter.

The failures are not, as might be supposed, confined to young men who have had no advantages. High School graduates, bearing diplomas that might be expected to carry them in without examination, and undergraduates of even the most prominent colleges have been rejected.

It is plain, then, that candidates should not take it for granted that they have nothing to do after securing their appointment; *nearly all require more or less preparation, and some cannot do with less than a year of persistent study.*

The figures given above show how much more difficult it is to enter now than it was thirty years ago, and old graduates should be careful in giving information to their young friends as to the character of the examinations. It is probable that candidates have failed from judging themselves by the standard of friends who entered West Point when the requirements were lower than they are now.

Success cannot be secured by any system of cramming, or by the use of "influence" at Washington.

The examination papers are recast from year to year with great care, so that coaching on examples and questions similar to what appear in old examination papers is quite useless, and favoritism is securely guarded against by the anonymous system, candidates being known only by number. *Nothing but a good knowledge of first principles avails a candidate at a West Point examination.*

At my school, the Highland Falls Academy, special attention is paid to preparing West Point candidates.

I am a graduate of West Point, and served as an instructor there seven years. It may be thought, therefore, that a weak candidate can come to me a few weeks before examination and by some special process of mine be got into West Point. This is an error. I have been of service to candidates that have come to me only a short time before their examination, and some of these young men have owed their success to my efforts; but I am not willing to do mere cramming work, and in fact it is difficult to cram a deficient candidate so as to deceive the examiners.

Most young men can spend at least a year profitably in preparing for West Point, and in order that the failures may be as few as possible the War Department recommends members of Congress to nominate candidates one year in advance of the vacancies they are to fill.

Many young men fail in *Spelling*. Few persons have any idea of the labor and patience required on the part of both instructor and pupil to make a correct speller of a young man of seventeen who cannot spell.

I have never had a candidate fail in this respect that has spent a year with me, though I have had some whose case seemed hopeless when they came.

In Arithmetic mere figuring is of little value. The candidate must show an acquaintance with fundamental principles and an ability to *think*, to satisfy the Board.

The following questions have been asked within a year or two:

"If the same number be added to both terms of an improper fraction will the value of the fraction be increased or diminished, and why?"

"What is the reason for placing the decimal point in example 5—multiply 4.32 by .0002—? The rule for doing so is not the reason."

No candidate can answer such questions from mere coaching. Questions like them may not be asked again for years, but equally searching ones will be, and problems requiring careful thought are given every year.

In Grammar no mere routine parsing is received. At the examination this year some candidates hardly knew what to write when they read the direction on the Grammar Paper not to give gender, number or person. The grammatical construction of certain underlined words was all that was required, and this was just what many could not give.

For most young men that come to me, a year is not too long to spend in preparatory work, and some require more time. Those that do not require much preparation for the examination are put at French, Geometry and Algebra, subjects which a candidate may, if he has a good instructor, study to advantage before entering. To some careful previous training in these subjects is very important, for the fourth class examinations prove fatal to many that enter without any previous knowledge of them.

I employ, as far as practicable, West Point methods of instruction, and keep myself informed as to all changes, however slight, in the system of examination; and my pupils, being so near West Point, have opportunities of learning for themselves from cadet acquaintances what will be required of them after entering. I may claim, therefore, to offer all the advantages likely to be found in any preparatory school.

My pupils have been remarkably successful during the four years I have been preparing candidates, not only a larger number, but a larger per cent. of my candidates having entered West Point than from any other school during that time.

My charge for tuition, board, fuel and lights, and washing, except of starched clothing, which is done at reasonable rates by laundresses in the neighborhood, is \$500 for the school year, and at the same rate for longer periods than four months. For shorter

periods \$65 per month, and anything more than half a month will be charged as a month. Pupils will furnish their own books, napkins, towels, blankets and sheets (single beds).

Candidates are, of course, subject to the ordinary rules of the school, circular of which is herewith enclosed.

HIGHLAND FALLS, N. Y., September, 1882.

CALEB HUSE, Principal,
Highland Falls Academy.

NOTE.—I have italicized some sentences in this circular to call attention to their bearing on points I have alluded to.

The Professor alluded with but little respect, I think, to the earlier examinations for admission. He said they were oral, brief, and that the wonder is that anybody failed to pass, that the Board could not, or did not, get at the knowledge of a candidate, etc. But he has not disputed, and I think cannot dispute, that the graduates under that system of admission have proved good officers and able men—as good and able as the higher standard of admission has produced. The Professor's remark was rather disparaging to the Academic Boards of earlier times. My conviction as to the earlier examinations is very strong. It is that the Board, say from 1840 to 1860, was competent and thorough. It was composed most of the time of Mahan, Bartlett, Church, Bailey or Kendrick, Weir, Agnel and others I need not name, with Robert E. Lee and Richard Delafield as Superintendents. I think it was fully competent to weigh the information it obtained, and that it took time enough to obtain the necessary amount of information to judge of the candidate's fitness. I say this after nearly five years' experience as Secretary of that Board. I therefore reiterate my opinion for what it is worth, that the Board did by that test get a good knowledge of what the candidate knew, and formed a pretty correct opinion as to what he was likely to accomplish if admitted.

Now, as to the mode of admission. The Professor has set forth the arguments in favor of the anonymous written examination at present in vogue for candidates. If this system has great merit for admitting candidates, I do not see why it is not used for subsequent examinations of progress in studies. The system for admission has been changed by introducing the anonymous paper examination without applying that system to subsequent examinations. I will only add on this point what was written to me by a United States Senator. I do not give his language. He said that to expect to find what the candidate knows by these slips of paper is as unreasonable as to expect a jury to get at the truth of a subject by having written statements from witnesses. I will here explain that the old system of admission for which I contend was not literally oral; much of it was written. The candidate, however, was not withdrawn from and unknown to the Faculty, as at present. On the contrary, he was before it, wrote upon the blackboard in its presence, and in addition was questioned by the Professors as thoroughly as they thought best. By that system the fate of a candidate rests on what he knows. By the present anonymous paper system his fate may be settled by what he does not know. The former, properly enough, was called examination for admission. A more appropriate name for the latter would be examination for rejection.

The Professor also referred to my remarks respecting cramming. I said: "The youth of true manliness, with mind enough to master the studies, is a better subject for receiving the West Point course in its full force, if he has just enough education to enter, than he would be with a greater amount of modern cramming. In other words early cramming is opposed to the distinctive purpose of the West Point system, which is high development of the reasoning powers and thorough understanding of principles." The Professor draws from this the conclusion that I regard learning as a disadvantage; that I argue in favor of ignorance. I did not intend to be so understood. I, however, make a distinction, which he does not seem to regard, between mere learning and real education.

If my meaning is not plain enough in the terms of the foregoing quotation a foot note, which was read and printed as part of my article, shows it unmistakably. The foot note is: "In a recent lecture for candidates for admission to the India Civil Service published since this article was prepared, Professor Max Muller says: 'That process of cramming and crowding which has of late been brought to the highest pitch of perfection, instead of exciting an appetite for work, is apt to produce an indifference, if not a kind of intellectual nausea that may last for life.'" After having written with that very thought in mind I was pleased to come across the foregoing statement by Professor Muller, which sustains my view that an overdose of modern cramming may be an injury to an appointee to West Point. That was my meaning. I think it is clearly enough expressed, and I adhere to the statement.

The Professor advocates, as I understand him, the system of competitive examination. Without going into a general discussion of this subject, I must express my unfriendliness to it as a system. But if, as a principle, it ought to be applied to candidates for admission, then, as a principle, I think it should be applied also in the selection of the Professors who teach them. But I do not believe in the system at all.

Such statistics as Professor Andrews presents cover only short periods. On the other hand, I took the whole range back to 1840. I do not understand that he has answered or impaired the force of the statistical facts in my paper. He does not dispute my statement that "the average yearly percentage of rejections has gone up from 7 in 1840 to 52 in 1870; and the actual number of persons turned away has risen from 70 for the ten years from 1840 to 1849, to 401 for the seven years from 1870 to 1876." Nor does he controvert my conclusion drawn from the enormous increase in rejections under the high standard of admission: to wit, that if the high standard theory is sound, it ought to show a *corresponding increase* in the percentage of graduates. But, as I showed, instead of that, we find for the period from 1867, when the high standard began, to 1876, the rejections increased a *hundred per cent.* over the preceding decade (old, or low standard of admission), while of those admitted there was an increase of less than *six per cent.* in the graduations. The Professor makes no explanation of this.

In relation to my statistics showing the large proportion of rejections from Arkansas, Colorado, Kansas, Nevada, West Virginia and Idaho, he names *some* Western Territories which he says I forgot to mention. But he does not show that the omission impaired the soundness of my conclusion. The statistics I gave were to support my assertion that "the tendency of the high standard of admission and the present mode of examination is to discriminate against the poorer *Congressional Districts and Territories* in the enjoyment equally with the rich of the right of representation at the national Military Academy." The Professor denies the correctness of this statement, and adds that *some* of the poorest candidates come from the richest districts, and *some* of the best from the poorer ones. These may be facts, but they do not disprove the tendency I asserted to discrimination in a high standard of admission and the present mode of examination.

The Professor's remark that the poor man's son has no more right than the son of the rich man to a place for which he is not qualified is quite true, but it seems irrelevant. No question has been raised as to rich men's sons and poor men's sons, nor as to the occupation by either of places for which they are not qualified. The questions are, What qualifications should be required? and how should they be ascertained?

The Professor concedes that in getting rid of what he calls "ignoramus" young men of ability and character may be rejected. But he destroys the value of this concession by asking, if the young man has ability and character, how is it he has not obtained a common school education? All that is required, he says, may be learned in a common school, and there is no part of the country where a common school education cannot be obtained. I do not undertake to answer his question, nor do I admit the correctness of

his assertions, but the logic of what he says is that ability and character imply preparation; hence all young men of *ability and character* are prepared to enter the Military Academy under the present standard; and if the Academic Board finds candidates not prepared, it follows conversely they have not ability and character. Preparation, therefore, according to Professor Andrew's argument, is the test of and measure for ability and character. This is a strong claim for "culture." The Professor asks, If a man is a dunce why should he be sent to the Academy? If he *is* a dunce, he should not be sent there, but I do not admit that lack of preparation to pass the examination at present required proves a man a dunce. The Professor appears to think it does. If that is so, it disposes of an important part of our subject.

I understood the Professor to say that the examination in grammar is very slight. I was under the impression that it is rather severe. From 1870 to 1876 there were 401 rejections—35 in reading, 165 in writing, 165 in spelling, 161 in arithmetic, 204 in geography, 171 in history, and 257 in *grammar*. That must mean something. Colonel Huse, in his circular of September, 1882, already cited, warns candidates that "in grammar no mere 'routine parsing is received.'"

In my paper I said, "In former times the candidates were a year younger than now, 'the limits then being 16 and 21, whereas now they are 17 and 22, thus giving a year 'longer for preparation.'"

I now suggest that these limits are too broad. Under them boys and men, to the disadvantage of the former, become candidates for the same class. This after admission proves a disadvantage to the institution in discipline and general administration, as the same rules and regulations are applied to all, boys and men alike. I am inclined to think that the ages for admission ought to be from 17 to 18, or at most from 17 to 19.

Now, Mr. Chairman, I desire to present another point. In my article of November 18th, I stated that the present system of examination for admission does not conform strictly to the law, and I suggested that it might be well if Congress would pass a law dispensing entirely with a mental examination for *admission*, letting every physically qualified appointee enter upon the course and remain until graduated or *found deficient in a subject taught* by the Academy. The Professor, I believe, looks upon that as a premium on ignorance. I do not see it in that light. In fact I now go a little farther than I did at first. I am inclined to think that the *existing* law is sufficient to dispense with an examination for admission by the Academic Board. I doubt whether the law, if strictly construed, would justify the present so-called examination for admission. It is the Act of 1812; the subsequent Acts do not bear upon this point. Its terms are: "Each cadet *previously to his appointment by the President* of the United States shall be well versed 'in reading writing, and arithmetic.'" The meaning, it seems to me, is that it shall be ascertained that the boy is well versed in reading, writing and arithmetic *before the President appoints him*—not before he is admitted, but before he is appointed. If this is so, he should not be examined for *admission*, but for *appointment*. As the President deems it his duty in executing this law to accept the recommendation of the Congressional Representative of the District, it seems to me to rest with the Congressman, who recommends, and the President, who appoints, to ascertain *before appointment* whether the boy has the qualifications required by the law.

GENERAL VOGDES—A cadet, as I understand, does not receive his warrant until the January examination.

GENERAL FRY—It is true that after passing examination in January the cadet receives a *warrant*, about which the law says nothing, but he receives in the first instance what is called a conditional *appointment*. That is the very appointment which, in my opinion, this law refers to. That is the appointment upon which he reports at the Academy, and upon which he is mustered, paid, court-martialed, etc., and it is to

that appointment, as it seems to me, that the law refers when it says previously to his appointment by the President the boy must be well versed in arithmetic, etc. When *that* appointment is made, it appears to me all questions of qualifications in reading, writing and arithmetic are closed. The examination in January is not to ascertain whether the law prescribing qualifications for appointment has been observed. On the contrary, it is conducted exclusively upon those things taught by the Academy between July and January.

Mr. Chairman, of course opinions as well as statistics are of value in the consideration of the matter we have in hand. I desire, therefore, to present extracts from a few of the many letters I have received from graduates of the Military Academy. Here is one from an officer of prominence formerly connected with the Academy, and still feeling a deep interest in it.

"SAN FRANCISCO, December 4, 1882.

"MY DEAR GENERAL :

"I write to say that I am very much pleased to see that you have brought the system of examination practiced on beginners at the Military Academy under discussion. I trust that you will bring out clearly the features of this system and its bearings upon the service before you dismiss it from attention. It is an innovation which I have watched with some surprise as practiced in examinations of teachers. In this application it ignores the real qualifications which it ought to be the object of the examination to bring out. It breeds a frequent scandal by the early acquaintance which some get with the proposed questions in advance of others. This is, however, a minor objection.

"I think you have attributed a distinction to the system by admitting that its standard is high, which is not deserved. I am not able to see that there is any standard in the system by which to measure what you desire to ascertain in regard to the mental quality or educational acquirements.

"Some of the questions cited by you as given to the last class may properly be called puzzles, or enigmas, when given to boys not trained in this kind of thing. They belong to the same place in mathematics that sleight of hand bears in the mechanical world. They seem to me to bear only a remote relation to the qualities and acquirements we have a right to look for in the boys who aspire to a military career.

"It would not surprise me to learn that those who give the best promise in the mathematical tournament fail of substantial progress in the subsequent course of study. An analogy may be found in the physical failure in after life of the prodigies of musical development in the gymnasium or boat-pulling contests.

"The argument for the system appears to be that it permits no partiality to be shown by the Academic Boards. I am loth to think that the charge against the Board thus implied can be well founded. If, unfortunately, it is well founded, the case would seem to require a remedy of a different character. The system appears to me to introduce a discrimination in favor of those trained by a special, if not a bad method, to the injury of individuals, and, what is worse, to the injury of the service. While open to this objection it applies no test of real value. I can well understand that the very best minds in the class, with fair preparation, too, are quite likely to appear among the worst in such a contest, and that the ordinary person may appear to the best advantage. A three hours' contest to a boy not trained to attack quirks and puzzles may show him in a light of apparent ignorance which he does not deserve, and, conversely, trained mediocrity may appear too well. This makes little difference unless the good boy is found deficient, otherwise, if the subsequent instruction is what it was, he will soon establish his position. It would seem necessary, to make the system fair, that a boy failing on enigmas should, before being pronounced deficient, be subjected to such a discreet examination as Professor Church was wont to give us, and have the opportunity to show that his failure was due not to want of reasonable knowledge, but to other circumstances. This personal element of the candidate—his personal appearance, the intelligence exhibited, his embarrassment or confidence—ought not, it appears to me, to be eliminated in an examination. They are essential quite as much as a little knowledge, more or less, which at best is small.

"I am inclined to think favorably of your proposition to admit every one not grossly and obviously incompetent, and try all by the test of the course. Some instances of development, after the boys had taken in the air of the place, struck me with force

"during my connection with the Academy. One case was that of a boy, who did not begin to open until he entered the course of mechanics. He started near foot in a class of six sections, and before the year was out he was in the first section, and was graduated about twelfth. It was a wonderful development. He was killed in the war. I think he would have continued to expand. This case proves little beyond the fact, and cannot be taken as a guide, yet it goes to illustrate the necessity of some elasticity or power of adjustment in the system which is applied on entrance. A rigid set of questions that not one-half the officers of the army to-day could solve in three hours is plainly not the one to govern in the admission of a lot of comparatively untrained men, whom you are going to train in some other way, I hope, than in the system indicated by the questions.

"The obvious tendency is to cramming, the one thing which the traditions of the Academy have hitherto consigned to ignominy.

"It has been the pride of the Academy to range men, at least in the most important studies, by what they really knew, while appearance of knowledge, which was not really present, has always provoked scorn and derision. This system is a revolution. It establishes premiums for knowledge of curiosities, and appears to me to lack conspicuously the only merit that I knew to be claimed for it—namely, impartiality.

"I hope you will take this letter as an indication of my sympathy in this business, which appears to me to have considerable importance.

"Yours truly,

"G. H. MENDELL.

"P. S.—In examinations for places as teachers in public schools it may well be that it is necessary to have a system of competition by which the examiners shall be guided in assigning a position to one of ten applicants. There is no reason at West Point for competition at the first examination, which does not pretend to arrange in order of merit, the object of this examination being merely to determine a fair probability that the candidate will make good progress in the course to follow, and not to determine whether one is a better scholar than another. This consideration, together with the past history of the Academy, seems to me to show that the innovation is not necessary, and that it is not an improvement on old methods."

I may mention that Colonel Mendell is interested in public school education. He was Assistant Professor of Philosophy at West Point from January 3, 1859, to June 18, 1863.

On Colonel Mendell's letter is written, "I concur in the above, Charles S. Stewart"—Colonel Stewart, of the Engineers. I have also a great many others here, but will only take time to refer to a few of them. Colonel Henry M. Lazelle, lately Commandant of Cadets, says:

"COMMONWEALTH HOTEL,
"BOSTON, MASS., October 14th, 1882.

"DEAR GENERAL FRY:

"I am glad that at last this subject and its co-relative have attracted attention in the army outside of West Point; and I am equally glad that they are to have a hearing within army circles, and I hope their remedy there.

"I think that the tendency and the actual present practice is to exact everything possible within the Board's construction of the statute.

"I remember on one occasion calling attention to the fact that one of the printed problems was a subject in alligation, which I regarded as beyond elementary proportion, and therefore beyond even the requirements of the Military Academy regulations for admission of candidates.

"It is true that there can be no partiality, that the examination is wholly impersonal; but it is unquestionably exacting to the smallest details; while the previous opportunities or disadvantages, the peculiarities or the future possibilities of the student applicant, are never known, under the present system, to the Academic Board, and in no way interest its members. In my judgment the questions in some subjects, especially in

"history and geography, are so numerous, and of so wide a scope, that only a rapid writer, perfectly familiar with the answers required, could present a perfect paper within the allotted time; and it is needless to say that such a being does not often present himself.

"I think that the Academic Board attaches great weight to the idea that it spares to the candidate the mortification of a future failure; and to the Academy much expense by the summary rejection (without inquiry) of those unable to secure the percentage required. While this may be true to a certain extent, there is at the same time, on the other hand, afforded the applicant a full opportunity to avail himself of his cramming (as you have stated), without cross-questioning, or the sifting out of the reasons of things—the whys and wherefores—in the present silent written examinations; and there is further completely ignored the fact that the minds of youth of equal aptitude and ultimate possibilities have developed unequally, because of unequal training in a given direction, some having had, perhaps, only very meagre preparatory advantages. And yet every graduate knows that many of these raw specimens, barely able to enter, climb during the four years to very near the top of their class. Such an institution of the people, and for the people, should be fairly within their reach without an expensive preparatory course. Such, evidently, was the intention of the founders of the Military Academy. And it is plain that antagonism will be generated, sooner or later, in the public mind toward an institution whose benefits are not to be obtained except by a costly preliminary process; and which even then rejects on an average more than one-third of all applicants at their first trial.

"It is within the knowledge of all, that during the past twelve or fifteen years the steady tendency at West Point has been toward increasing the course of studies in extent and difficulty. And it is no reflection upon any one that this is so, since it is an inevitable result of the rapid multiplication of the methods and of the truths of science. Each Professor there has been ambitious to keep pace with progress elsewhere; has been jealous of the time given to subjects in departments other than his own; and anxious perhaps to swell the dimensions of his own department of instruction. It is easy to see that the natural result of this would be to declare deficient, without much toleration or charity. An additional language—Spanish—is now taught, and I think that I am safe in saying that in every other department of study there the course has been increased, while the period—four years—is the same as formerly.

"The consequences of all the united causes are, few successful candidates for admission, and very small graduating classes.

"The mental strain of the present course and its exactions are, it seems to me, from beginning to end, too much. It leaves the cadet exhausted, and on graduating, he throws his professional studies aside to be resumed only when compelled to do so. But a relatively small proportion of the large number presenting themselves each June at West Point can stand it for four years. Hence the Corps of Cadets will continue to be small, and the number of graduates in the service disproportionate to the number of non-graduates so long as existing conditions continue.

"The Military Academy was certainly created for the army, and not the reverse; and the public sooner or later, out of patience and sympathy with it, as now producing, will demand that it supply the needs of the army. When it is considered that no purely military instruction is given, except in tactics, until the last year, and that cadets are very seldom found deficient in that year, that the deficiencies are chiefly in pure or applied mathematics and the languages, it does seem that less pressure might and should be exerted in these last named studies. As cadets doing fairly well therein would easily master the fourth year's course, the army would have many more graduates, who, perhaps, if not fitted for the higher duties of their profession, would be eminently qualified for those of the line; and it certainly would be a great gainer in intelligence and in professional qualifications. And certainly, as you have said, the law establishing the course of studies at the Academy and providing for its graduates contemplated this gradation in Academic proficiency with the view of increasing the number of graduates.

"I beg, General, that you will pardon any indiscretions of language or hasty thoughts that may appear herein.

"With the highest esteem, I remain most sincerely,

"Your obedient servant,

"H. M. LAZELLE."

Colonel C. S. Stewart, Engineer Corps, writes as follows:

"SAN FRANCISCO, CAL., December 2, 1882.

"MY DEAR FRIEND:

"Let me thank you for your good words as given in the *Army and Navy Journal* of last week, which call attention to the illegal tests required of candidates for admission by the Academic Board at the Military Academy. The arithmetical jugglery and leger-de-main may, however, be theoretically ordered by the Secretary of War, but, if so, he, it seems to me, goes far beyond the intent and meaning of the statutes. I trust he may be induced to make the Board go back to a simple examination, which would give some chance to many a fellow now turned off to hold on, and, with the training at the Academy, make as good an officer as any now obtained.

"It is only within a very few years that I have had any knowledge of this, as it seems to me, outrageous system of examination for admission at West Point. * * *

"C. SEAFORTH STEWART."

Colonel Stewart graduated head of the class in which McClellan was second, and has a son who passed the examination for admission and is now a cadet at the Academy.

General W. W. Burns, of the Subsistence Department, authorizes me to use the following letter addressed by him to the *Army and Navy Register*:

"THE ACADEMY A SCHOOL FOR DISCIPLINE.

"[To the Editor.]

"SIR: Your correspondent (unknown quantity) seems to be anxious to popularize West Point so that the people will look upon the *élèves* with more favor. He would lengthen the term a year, grant leaves to visit and keep up current relations with the times and people, raise the standard of admission, and would remodel the course so as to take in knowledge of modern warfare, &c. In a word, would place it more on a footing with other colleges. He says he is a young man, and therefore advises the doing away with old methods to square with young and vigorous ideas suitable to steam, electricity, breech-loaders, armor defenses, &c. These are taking suggestions, and strike the popular heart. 'Progress' is the tocsin of the times. *Festina lente*. Principles are not young; discoveries may be. The Medes and the Persians—Homer's Greeks—based military education upon order and discipline. Order, heaven's first law; discipline, the rule of wisdom. Discipline of the mind and body. Mathematics discipline the mind, calisthenics the body; both require order and healthful restraint. Military education forms a matrix for knowledge which comes after, as the sprout from the rich soil. Whatever seed be planted finds quick root and flourishes. A democracy fosters military education as a necessary evil, for its method is autocratic. It can never be popularized. It ought not to be in our body politic, but should be treated as gunpowder, kept secluded and safe, respected for its use, guarded against abuse. The cadet should be taken as a young colt from the field, without false training or loose handling, vigorous from his native stock (the people), ambitious to improve his condition, eager to win the goal, his eye upon his country's eagle and flag waving above him. Reading, writing, arithmetic, his country's history and geography imbibed from his common school, mathematics and drill will soon test his natural abilities. Then let the chaff be blown away and the sound seed ground in the mill of discipline, both of mind and body, healthily, as was done at West Point. Then he should be reserved for his country's use, not his own or that of popular friends. Knowledge of current war, history, morals and manners should follow at such schools as Fort Monroe and Leavenworth, in corps or regiments. He is dedicated, set apart for the people, who are sovereign, as a servant of the public. His life a school, theoretical, practical, progressive, for emergencies. High schools are destroying the youth of our times, turning out loose professionals, or degenerating industrial classes into an overstock of clerks, poorly paid, would-be gentlemen. Loose habits and smattering science to be unlearned would take half of the West Point term; the character could never be reformed. It is brain, nerve and muscle that West Point requires, not knowledge in a diversified curriculum. Bacon recommends few books, well digested, not for knowledge, but for the mind discipline. Doubtless the young Professors now at West Point understand this.

"REPUBLIC."

General L. C. Hunt writes me as follows :

"ANN ARBOR, MICHIGAN, March 15, 1883.

"DEAR FRY:

"West Point always has been, as it is now, intensely conservative. There is so much that is really admirable at the institution, under any regime, and so much that is fascinating in its surroundings and belongings, that each generation of men stationed there will regard as heretical any change or criticism or any reversion to the methods of the past which we know to have worked better.

"For my part I am satisfied that the methods since the war have not been up to the old mark—too much crowding, exaction, cramming specially—not enough of broad general outlook.

"L. C. HUNT."

General Webb, President of the College of the City of New York, writes :

"MY DEAR GENERAL :

"In answer to your request that I should furnish you with a copy of the remarks that I was induced to make after hearing you read your most interesting paper upon the admission of new cadets to the U. S. Military Academy, I regret to state that I have been unable until this late day to put them in writing. I hope you will accept this letter, therefore, as simply the result of an effort to recall sentiments forced from me by hearing your arguments in favor of a change in the examination of candidates for our Alma Mater.

"If one who has had six years' experience as an instructor at West Point and fourteen years' experience as President of a College, extending over a period during which he has conducted the examination of over 12,000 candidates for admission from the New York public schools, can be of any service in securing a settled conviction in the mind of our average Congressman as to his duties in regard to this matter of selecting candidates for West Point, and securing a proper representation of his State and District in the Military Academy, I will gladly do my part in this letter.

"We all know the working of the law, and we know that each candidate represents a Congressional District, but there are two points to which I would call special attention, and one is already covered by your paper.

"The first is as you stated. The duty devolved upon those appointed to conduct the affairs of the Academy is to secure, as far as may lie in their power, under suitable regulations, adopted to protect the Academy from suffering any diminution in a proper standard in a knowledge of belles lettres, arts and military science on the part of its graduates, while at the same time they shall secure, as far as possible, a representation from all parts of our country.

"We therefore feel at once that this question of examinations for admission, and the question of the duties of members of Congress in regard to making appointments, will both give rise to as many discussions and as many methods of discussing them as you may find men willing to write. You will therefore find from me in this paper only what I recall as having said in the presence of the Military Service Institution on these two subjects.

"The Military Academy, as a national school, has always stood on about the same footing in regard to the ordinary boys' school as most of our leading Colleges have been supposed to stand. The gravest error that has been committed has been that which fostered the idea that the Military Academy should seek her recruits from among college graduates. To print a number of questions, said to be of about sufficient testing qualities in the various subjects, and to hold them up as models for those who are preparing themselves to enter West Point, is proper, and conducive to produce among the boys' schools of our country a fine appreciation of what a good common school education ought to be in this country. This is all that the law contemplated; indeed, all that the law allows. And so much for entrance examinations. The common sense of the Academic Board at West Point must govern this whole matter until it may be made necessary for Congressmen to encroach upon the privileges and rights of that body, when the privileges and rights of their constituents are interfered with by them. And now as to the duties of these Congressmen.

"If the district a citizen is called upon to represent in Congress be in a condition such as to prevent the member from selecting a suitable candidate for West Point, it is the duty of the Congressman to refrain from making such selection until through his influence he may raise the standard of education in that district. If the district be one capable of furnishing a suitable candidate, fully equal to pass the moderate exami-

"nation which should be required for entrance to West Point, he must under the law select one fitted by nature, and by habits, and by associations to become the comrade of officers of the army, and all the certificates of Boards and Committees and politicians are worthless in the eyes of the law when the question of the responsibility of the Congressman is brought up.

"The brightest brain in any district never has been and never will be the best fitted for the duties of an army officer. No member of Congress has the right to send to West Point a coarse, bright fellow, simply because he passes a Board of Examiners, called together possibly to free him from the responsibility which the law put upon him. If he wants to do his duty through a Board let him announce that the Board is to pick out the man best fitted physically, morally, intellectually, and in habits and disposition to receive so important an appointment from the Government; if the Congressman himself knows nothing about his candidate's habits and calling, the people in the vicinity will. Some Congressmen have pursued this course conscientiously, but I fear many have not. Therefore it should be understood that there is nothing whatsoever which under the law can free a Congressman from these responsibilities. And when a common fellow is dismissed from West Point the name of the man who selected one notoriously unfit should be published. If these rules were adopted you would not find many self-mutilators or liars.

"If these be the duties of Congressmen, how careful must the Academic Board be not to place the standard for admission beyond the reach of the young man who would be deemed in his district best fitted for College.

"And now, agreeing with you in the spirit of your paper and expressing as I have, possibly in too strong a manner, the feelings that have arisen when I have heard West Point discussed during the past eight years, I turn to another question which will, I hope, call for earnest consideration from the Academic Board.

"Nothing can be more important to the young candidate than the old-fashioned oral examination made in a public way by kind-hearted, intelligent Professors, who seek solely the good of the Academy, and are above dwelling in a pedantic manner upon technicalities which do not affect the general capacity and knowledge of the young man. You may answer that we conduct our examinations in this College through written matter. Yes, but I have a thousand young men to examine in seven subjects, and it is not in my power to require the oral examination, whose loss I deplore. The best of heart and the best of headwork is lost to me. The examination of the eight hundred students for advancement is required by law to be oral whenever possible.

"I think I have been sufficiently explicit, but I sincerely regret that, writing at the last moment and under pressure, I am prevented from sending you a better digested document. I have expressed, however, the results of a long experience. If cadets could be chosen by such able men as Mr. Hewitt, West Point would not suffer. But if some of the other members do not profit by his example in spirit and in deed, the Academic Board at West Point will continue to be antagonistic to the best interests of many members of Congress.

"Therefore I say, finally, let us all know that you do not require a young man to know too much to enter West Point. Then let the members of Congress read the law in a proper spirit and correspond to its provisions.

"I remain truly yours,

"ALEX. S. WEBB.

"NEW YORK, June 1st, 1883."

I now repeat that I am under obligations to Professor Andrews for the kind terms in which he has mentioned me, and, as an officer of this Institution, I thank him for reading his paper. I have no doubt that the army will receive it with interest, and that the proper authorities will in due time pass impartially and wisely on the subject under discussion.

Mr. Chairman, I move a vote of thanks to Professor Andrews.

JUDGE ADVOCATE GARDNER—I move, Mr. President, as an amendment to the resolution, the addition of these words, viz: "and that a copy be requested for the archives of this Institution."

The amendment was accepted by General Fry.

GENERAL ANDREWS—*Gentlemen* : I thank you for the kind attention that you have given to the paper I have had the honor to read before you, and would acknowledge the kindly courtesy of what General Fry has said in regard to it. Having already occupied so much time, I will now be as brief as possible. Some of General Fry's remarks might, if left without reply, leave upon some minds an erroneous impression.

The matter of the number of candidates rejected did not appear to me to require much discussion. I indicated the causes of the evil, and what is in my judgment the true remedy—namely, not a lower standard of admission, but a more careful selection of candidates. As to the effect of the clamor raised, or to be raised, about the number of rejections of incompetent candidates, if a nation of fifty millions of people chooses, in disregard of the rights and interests of the whole, to yield to the unreasonable and selfish demands of the few, and say, through its duly constituted authorities, to the Academic Board, "Admit to the Academy and educate every dunce that may be sent you from "any district," we can only bow to the national will. But at present we see no reason to fear any such action.

I have listened with utter astonishment to the reading of the letter from Colonel Lazelle. While he was a member of the Academic Board I certainly never received from his words or deeds any impression that he entertained the views expressed in his letter. I remember hearing him make suggestions favorable to leniency in one or two instances, but his course, when the vote was taken, did not, even in those instances, show that he disapproved the action of the Board. I believe he is not thought to have shown, as Commandant of Cadets, any great tendency to mildness.

It is at best very difficult for the Academic Board firmly to discharge their duty in the face of influences brought to bear upon them. Officers of the army (personal friends, in some cases, of the officers of the Academy), men of high position and great influence, and even ladies with their blandishments, are not backward in trying to secure favorable action in the cases of those in whom they are interested. In my belief, whenever the Board has erred, the error has been on the side of leniency, and of this I have seen several instances.

The value of opinions depends very much, in my judgment, upon the persons by whom, and the circumstances under which, they are expressed, and upon the extent to which they are supported by facts. Taking this view, I was inclined to give weight to the opinions of Boards of Visitors, and I am so still. I believe that such men as are usually found on those Boards have too much independence of character to be unduly influenced by the Academic Board, and some of them are certainly experts in educational matters. I will add that they have shown independence enough to make sometimes recommendations in opposition to the known views and wishes of the Academic Board.

As to the suggestion that the law does not authorize the examination of candidates by the Academic Board, I have only to say, that while in view of legal decisions sometimes rendered in Washington, I do not know how such a point might be decided, it certainly would be very surprising to find that since 1818 the Academic Board has been examining candidates without authority of law.

It has been recommended by some that the candidate selected should be admitted without examination, and that the member of Congress making the nomination should be "held responsible." But if he disregards that responsibility, as he usually does, what satisfaction can there be in the *brutum fulmen* of "holding him responsible." Much the member of Congress would care for that! Of the probable practical working of such a principle, I can give you an illustration. Appointments in the Quartermaster's and Commissary Departments have recently been thrown open to civilians. Now, if some worthy officer of long and faithful service on the plains feels hurt because his

claims to consideration for such an appointment are disregarded in favor of some civilian who has never served a day in the army, how consoling it must be to that officer, or to his friends, to hold the appointing power responsible!

I am not aware that I have said anything to indicate that all candidates should or might be taken exclusively or principally from New England, or from any other single section of the country; nor could the standard of admission possibly be raised so that only New England could furnish successful candidates. No recommendation favoring such a result is, so far as I know, made by any one. Every Congressional District throughout the country is, and should be, given an equal chance with the other districts to be represented at the Academy, subject only to such restrictions in respect to qualifications as the general good may require. If any district loses its representation, it is usually owing, not to inability, but to neglect, to furnish a properly qualified candidate. The selfishness that would keep other districts from having cadets at the Academy, because a few districts cannot, or, more probably, will not, select satisfactory candidates, is contemptible, and should be treated accordingly. As I have already shown, lack of will has much more to do than lack of ability with the failure of districts to be represented at the Military Academy. From some of the oldest and richest districts have come some of the worst candidates. I have seen as unfit a candidate from Boston as from any other place.

In estimating the severity of requirements for admission, a great liability to error lies in considering merely the meaning that words used in the regulations *may* have, instead of the meaning they *do* have in practice. For instance, the actual requirements in reading and writing can be properly determined only by examination of the practice of the Board. And what is actually required in arithmetic? The answer is, that most of the problems—fully two-thirds—are very simple; and with a correct solution of these, the more complex problems may be neglected without causing the rejection of the candidate. He is advised to solve first the simple problems, and then to put his strength upon the others.

I think I have shown no want of respect for the old Academic Board. I in no way even suggested that any former Board was inferior to the present one. But I did imply, and now say, that it was beyond the ability of any Board to do, in the time allowed, what has been claimed to have been done by former Boards.

The system of written examinations is employed much more than General Fry is aware. The examinations of the fourth class in January are oral before the Committees of the Board; but every cadet who fails to receive the unanimous vote of the Committee in favor of his proficiency is subjected to an additional and written examination. The examinations in mathematics of the fourth class in June, and of the third class in January, are wholly written; the final examination of the third class in mathematics is oral, with the additional written examination of those of doubtful proficiency on oral examination. In other classes and subjects, the examinations are oral, written, or partly oral and partly written. But in every department, except drawing, the rules of the Board do not permit any one to be found deficient except upon a written examination, the results of which must be submitted to the full Board for consideration and final decision. Formerly the element of chance involved in giving cadets different subjects at oral examination often gave rise to complaint. "If I had only had the subject that Smith had, I should have passed the examination as he did." Now the fate of all of the same class whose proficiency or deficiency is to be determined is decided by precisely the same written examination.

In regard to what has been said by a Senator of the comparative value to a jurymen of written and oral examinations of witnesses, such cases have no parallel in the examination of a candidate. The turning of a witness inside out by a sharp, shrewd lawyer,

in an oral examination of perhaps several hours, is a very different thing, both in its purpose and in its effect, from a brief oral examination of a candidate for admission to the Academy.

I wish to add a word of caution with respect to loosely made statements that "many have done well at the Academy who were ill prepared for admission." Take such assertions with great allowance for exaggeration, and insist upon an answer to the question, "How many—what proportion?"

GENERAL HANCOCK—General Vogdes' name has been mentioned as a gentleman from whom some remarks would be received with pleasure.

GENERAL VOGDES—I think that the subject of the method of examination, and that pursued not only in examination, but also in instruction, should be joined together. If the written or paper method is the best test for admission, it is also the best for further examinations, also the best for the purpose of instruction. Thus the old times method will have to be done away with. As I understand the question in dispute, there are two distinct questions—the subject matter of the examinations and the manner of conducting the same. What is the object of the Military Academy? Is it not to educate young men so as to qualify them to discharge faithfully, energetically and intelligently the duties of an officer of the army? The examinations for admission to the Academy, as well as the course of study afterward pursued, should always keep this end in view. Competent officers of the army, not learned professors, is the end to be attained. All professions, all the various business pursuits, all the mechanical trades require some kind of preparation and study before one is qualified to act in them. None more so than the military profession. All of the schools of the country have for design to fit the young man for the better discharge of the duties which he will be called upon to discharge in after life. The military demands a special preparation. The number of employers or demand in the various professions and trades will always give employment to those specially instructed with that view. In the military art there is but one employer—the General Government. It will therefore have to accept uninstructed officers or specially instruct them. The method of appointing uninstructed officers and afterwards instructing them has been fully tried and found expensive and unsatisfactory; hence all countries have provided schools of instruction, and not issuing commissions until the candidate has shown proficiency in all the requirements. If this theory is followed out, the rule of appointing cadets should be the same as that which would be followed in appointing officers to the army. As the army belongs to the whole country, it is desirable that these several appointments should be proportionally distributed over all the country. Such, I think, is the design of the present law. The question to be determined by the Academic Board should be: Does the applicant possess sufficient mental, physical and moral qualifications to render it possible that he may acquire the knowledge required for his position as an officer of the army. The fact that some Congressional Districts of the country present two or more candidates for admission better prepared than others, is no reason for admitting them and excluding others. Each district has a right to be represented at the Academy. If it sends a candidate whom it is at all possible may acquire proficiency in the course of studies, he should be admitted. He does not receive a warrant until after the January examination. The fact that this warrant is withheld until that time seems to sustain my view.

What is the advantage of the new system over the old? It does not save time. It does not enable the Board to see and judge of the mental qualifications of the candidate. It simply enables it to judge of the training of the candidate as required by a special method.

Sound reason requires that an examination should be pursued after the same method as the instruction has been given. If the method of instruction throughout the country is by written papers, then by all means follow that method; if not, then do not subject a candidate to that test. You certainly can ascertain his qualifications, and you subject him to an unjust test. If you pursue the old method, you have him before you. A judge of his mental powers can see why he answers or why he misses a question, and can form an opinion as to the possibility of acquiring a knowledge of the studies hereafter to be pursued.

In regard to the method of examination after admission to the Academy, if you accept the method of written examination, then to be just and fair you must pursue the same mode in instructions. For, if you adopt one mode in instruction, another in examination, you introduce a new factor greatly and unduly affecting the result. There are many things required of the officer other than proficiency in writing on certain subjects—promptness, habits of obedience, intelligence, a capacity to meet sudden emergencies in unforeseen circumstances. All of these qualities should be taught. Make the course in all of its branches thorough and exacting, don't allow the study of a subject unless you have time to give more than an elementary instruction in the same; whatever the subjects or studies, let them be thorough in the instruction and requirements; above all, don't let the Professors fall into the system of being mere examiners. They are primarily instructors. That is their principal duty. I am not exclusively for the old system. On the contrary, I think the new may advantageously be introduced in some classes. In the departments of mathematics, philosophy and ordnance, the old method should be strictly adhered to. In the department of languages, the new is in the main already followed, and may be advantageously expanded. In chemistry, etc., the present method is entirely satisfactory. In law, a new and very important department, both methods can be advantageously employed. I would make an innovation in requiring the student to write out opinions in hypothetical cases, giving him access to law authorities. One or more of such cases should be discussed and the papers submitted to the Board of Examination. In the department of engineers, papers on military campaigns and principles of war should be required, and might be advantageously substituted for the present method. In the department of drawing I would require the cadet to recite upon maps. I say nothing about what are called the practical departments. I do not see how they can in any way be imparted by the new method.

PROFESSOR TILLMAN—*Mr. Chairman and Gentlemen*: I did not come here with the expectation of saying anything, and consequently can only speak generally. I was so unfortunate as not to hear the remarks of General Fry to-day, except the latter portion of them, and in so far as I can see they merely express a difference of opinion between Colonels Mendell, Lazelle and the Academic Board as to the problems given out at last June examination. One of the speakers here (General Vogdes) has also asserted that the problems were calculated to favor the boy who had "crammed," and who worked by *rule*, rather than the properly prepared boy, or the one who had a good mind with little preparation. Now, I know that those problems were framed by the Professor of Mathematics to avoid this very thing; and although I do not myself consider them very difficult, I should like to have pointed out to me the rule in arithmetic that would enable a boy to solve the more difficult ones without understanding them. After hearing General Fry's first paper I went home and carefully examined the problems, and had no difficulty in solving them by arithmetic, but a point which I would make is, that you cannot judge of their difficulty by your own ability to solve them. I doubt whether there are ten officers in this room, over forty-five years of age, who can find the greatest common divisor of a set of numbers unless they have had recent occasion to perform the

operation; yet certainly this is not too much to require of candidates. Professor Gilman remarked to me as we went down to the boat just now, that it was an entirely fallacious test of difficulty to judge by your own ability to solve such problems unless your habits of thought kept you familiar with the processes.

Of course an examination is often very deceptive. Professor Huxley has said that it is but little test of knowledge, and almost no test of capacity, unless you have a great time in which to conduct it. I think, however, that there is a minimum which we have a right to require at West Point, and which every one should know, and I claim that you can frame a written examination so as to determine more fairly and justly whether that minimum is reached than by oral examination, when it is necessarily limited as to time. The statement of Professor Andrews—that, as a rule, the lower sections prefer the written and the upper the oral examination—shows that the written examination is not so unfavorable to those most interested. Now I agree with most of the sentiments expressed by Professor Andrews in his paper, but I did not understand him to hold that the appointments should not be distributed throughout the country. I do not pretend to say that such arrangement might not be better for the country, but do not believe the Academy would stand under it, consequently I do not advocate it.

GENERAL HANCOCK—It has been stated that a number of gentlemen present would like to hear from General Stone, who is one of the graduates of the Military Academy, and late Chief of Staff of the Egyptian army, as to the oral examination of the earlier days of West Point.

GENERAL STONE—*Mr. Chairman*: Really I do not see why there should be a difficulty anywhere—why you should not have partially oral and partially written examinations; that is, that you should have the advantage of certain fairness which exists for all with written examination; and the subject is one so vastly important that sufficient time cannot be given for it. It does not seem to me that there should be an account of time in the matter; it seems to me that the time is well spent in proving the qualifications of a young man, and it is time very well spent if you give all the advantages of the written as well as the oral examination, and I may say that in that barbarous country of Egypt we have applied both.

GENERAL HANCOCK—General Abbot is present, and it has been suggested that many of the gentlemen in the room would like to hear from him an expression of his views.

GENERAL ABBOT—Since General Hancock has called upon me, I will briefly refer to two points.

I think the severity of the entrance examination is generally overestimated by one reading the printed list of questions. When a member of the Board of Visitors in 1879, I spent an entire day with the other members of the Committee on Education in scrutinizing the examination papers of the preceding year. They were arranged in order of merit, errors being marked in red ink and the marks recorded. The best papers contained very few mistakes, but those of the rejected candidates were surprisingly bad. Near the dividing line the papers of the candidates admitted showed marked leniency on the part of the examiners. The severity of the test, of course, depends on the degree of excellence demanded, rather than upon the difficulty of the questions; and personally I should not have given more than 1.5 out of a maximum of 3.0 to some papers that were accepted.

My second point is that West Point must keep pace with the age. Thirty years ago

it was the best, and, indeed, almost the only mathematical and scientific school in the country. To-day it has many rivals, at which the entrance examination is vastly higher than with us, and is constantly advancing. War is becoming more and more a science, and is demanding more and more knowledge from officers of the army. We cannot afford to fall behind in our preliminary education. The Professors have enlarged the course, as they were compelled to do; and the labor required of the cadets has, I think, reached its limit. To keep the entrance examination at the old standard of thirty years ago would, therefore, be a fatal mistake. I think the time is not distant when it will be still more advanced, to keep pace with the advancing standard of common school and high school education in the country. That is really the proper plane of reference in estimating what can fairly be demanded from candidates. The children of poor men should not be excluded, but they should be required to make use of their advantages to the utmost.

GENERAL HANCOCK—It is stated that there is present a graduate of West Point, who has since graduated in the highest engineering school in France (Lieutenant Bixby), who would perhaps give us the benefit of his experience.

LIEUTENANT BIXBY—*Mr. President and Gentlemen*: It seems to me that one of the principal points of contention is that of the standard of admission, and the question whether that standard can be raised without depriving the centre, South and West of the United States of their due benefits from the Academy. It seems to me that a just share of representation at West Point depends more upon the interest taken by the country in the Academy than upon the severity of the entrance examination; and that the standard can be raised still higher without depriving any State of the Union of its due share of representation, if really desired.

The Polytechnic School of France has been already alluded to in this discussion, and as it is the institution upon which West Point was to a great extent originally modelled, it may not be out of place to refer to it again. This Polytechnic School is not a free school; every scholar has to pay annually quite a large fee. Entrance to this school is by open competitive examination, so severe that a man cannot be sure of entering unless he is well enough prepared in general subjects to be able to enter Harvard or Yale, and on mathematics to be able to step boldly into the depths of the higher algebra, analytic geometry, and the calculus. However, this Polytechnic School is as fair a representative of France as West Point is of the United States. It has amongst its numbers men from the North and East as well as from the centre, South and West of France. Amongst its members are to be found men who are the sons of laborers as well as of politicians, whose families are poor as well as rich, plebeian as well as aristocrat. Now, why is this so? Simply because every village, commune and department in France is deeply interested in its own men as regards the Polytechnic School; they look around amongst their own numbers for the best material, take an interest in their brightest boys, get up a purse or scholarship and give it to these boys with the understanding that the latter are to go to the best schools in the department, and then to Paris to enter the Polytechnic if they can. The consequence is that these boys almost always succeed, and their village, city or county is proud of them.

Now, if in the United States every village, city, county or Congressman would take as much genuine interest in the men sent to West Point, their own National Academy, then, no matter how high the standard of admission, there would not be the slightest difficulty in any State of the Union in finding men capable not only of entering, but of graduating at West Point; men whose career would be an honor to themselves, their city, their Congressman, their State, and their country.

GENERAL HANCOCK—If there are any gentlemen present who would like to add anything to the discussion, the meeting would be gratified to hear from them.

COLONEL H. C. SYMONDS—When a question of lively interest is propounded for discussion, and discussion quickens with its consideration, it is evident that circumstances have stimulated antagonistic thoughts in that direction, or that interested persons are forcing such discussion in order to agitate for their ulterior purposes.

I have observed nothing in the administration of the affairs of the Military Academy, either in the examination for the admission of candidates, in the course of instruction pursued, or in the methods and results of enforcing discipline, to warrant any reasonable complaints, or to provoke any serious modifications by superior authority. I must, therefore, inquire into the motives of this discussion and ask what it means.

Three thoughts thereon have occurred to my mind.

1st. Is it the purpose of any set of persons to degrade the Academy from its present degree of efficiency and usefulness?

I cannot believe that any of her sons would have such an object, or would lend themselves to any work that would have such a result, and yet I can but believe that a discussion, having no justification in facts, will, I know not how, inure to the detriment of the Academy. I can but believe that any essentially backward step in the requirements for admission would be detrimental to the pursuit of studies at the Academy. I can but believe that any relaxation of the present standard of physical and mental discipline would, if carried to its logical result, convert the Academy into a temporary asylum for the "idle dependents of respectable connections."

2d. Is it the purpose of any set of persons to restore the government of the Academy to the control of the Chief Engineer of the army.

If there be any such purpose I protest against any such action, whose logical result must be to endanger the existence of the Academy. Personally I felt a keen regret that the selection of Superintendent had not been kept within the limits of the Engineer Corps. Events during the greater part of the last fifteen years have not contributed to allay those regrets, but the selection of Superintendent from the army at large has become an accomplished fact, and I can imagine no good that is likely to result from an agitation of that question, but I can imagine that much harm might result. Nor do I think that the results which have flowed from selecting the Superintendent from the army at large have been such as to invite every faithful and wise friend of the Academy to wish to have its corollary adopted. I prefer to believe that the most reliable and competent Professors must be found among those who, as cadets, have been most distinguished in class standing. I believe that only such graduates of the Academy should be at the head of the different departments of study, and that their tenure of the office should be permanent. I think that it might be beneficial and proper that the principal assistants should, together with the heads of departments, constitute the Academic Board. Further than that I do not believe it would be wisdom to extend the rotation of details for service at the Military Academy.

3d. Is it the purpose of any person or persons to agitate the question of a preparatory school for West Point?

This would be, in effect, to enlarge the Academy at the expense of its efficiency. Should the pupils in such school be subject to the same rules that govern the Academy? What would they study more than is taught in the public schools throughout the country? Could such a school develop those qualities which I shall soon claim are the essential requisites to a successful career at West Point?

Assuming the requirements for admission to remain as at present fixed, my experience in preparing more than 200 pupils for that examination convinces me that few of

those who are admitted lack the mental fitness to continue the course of study pursued. Some have not sufficient capacity, but the great majority of those who fail, lack pluck and stamina. I use these words intelligently. The same causes that militate against the admission of many assist in the departure of some who are admitted, until only the fittest survive the long strain of four years' hard mental and physical labor. Could a preparatory school in one year affect or effect a remedy?

I now proceed to the visible points of discussion between General Fry and Professor Andrews. If the article of General Fry is simply a complaint against an interpretation of the law by the Academic Board, and their rigid enforcement of their own interpretation, I cheerfully offer my conclusions, deduced from thirteen years' experience with many pupils, about half of whom had received, or were looking forward to receive, appointments to the Military or to the Naval Academy.

At the beginning I recall Solomon's proverb, "A fool uttereth all his mind, but a wise man keepeth it in till afterwards."

I believe I have a clearer view of the responsibilities with which the Academic Board is charged than I had in the earlier days of my professional life, and my sense of obligation to those waspish and seemingly venomous monitors of my youth is so strong within me that (this seeming to be a fitting occasion) I feel urged to utter my whole mind, even if some shall deem that I do so at the cost of reputation for wisdom.

General Fry champions the cause of the unfortunates, and will have the sympathy of the many who hear the tales of misfortune. Professor Andrews answers with the dry, hard facts, and will have the approbation of those who experience no misfortune.

Until 1881, I had seen nothing in the preliminary examinations that betrayed any undue severity. The examination in arithmetic for that year must have been very harsh, or at least, unusual, as two of my pupils failed, who by the best judgment I could form from the work of previous years were prepared for the examination. In 1882 the examination was of the same character as in 1881, though, I think, it must have been less severe; and if that is to be the method of determining the proficiency of candidates it was a reasonably fair examination.

But on that point I agree with General Fry in condemning such a test of proficiency. Such work is rarely taught, and more rarely learned, in the common schools of the country. It is properly "Applications of Arithmetic" or algebraic processes, wherein the quantities are represented by numbers. It is mathematics, which cadets are expected to learn at the Academy, and not arithmetic, which they are expected to know at entering. The reason why so many old graduates found difficulty in solving those problems is, that they never knew arithmetic, much less its application to problems and their solution. I confess that I never *knew* arithmetic until I learned it here in my process of teaching it, and right here I think I can offer a very practical suggestion for promoting efficiency.

Drop the study of English grammar till the last year, and let it take the place of Spanish. Give the time now devoted to English grammar and rhetoric to the study of the principles of arithmetic and the application of arithmetic to useful purposes. It may emphatically be regarded as a modern language little known, but much needed, and I know no one better fitted to lay the foundations of such study, and impart its blessings, than the present Professor of Modern Languages. The examination in arithmetic for admission to the Academy should be confined to notation and numeration of the different forms of numbers, with the rules and reasons therefor; the application of the four ground operations to the different forms of numbers, with the rules and reasons therefor; the possible reductions of the different forms of numbers with the rules, reasons and purposes therefor, both in the common and in the metric systems of compound numbers. There is scope enough in such an examination to test the probable fitness of a candidate to pursue mathematical studies.

I have found the examination in English grammar to be invariably below what I think candidates ought to undergo. I think I have observed a relation between capacity for grammar and appreciation of right and wrong which persuades me that any candidate who, at seventeen years of age, is deficient in English grammar should be rejected. I would not suggest an examination that consisted in parsing twenty or thirty words of a sentence requiring to be translated into current English, but a reasonable examination on the orthography, derivation, inflection and uses of words; the principles, construction and analysis of sentences; the correction of erroneously constructed sentences, with reasons for such correction; parsing and the rules of syntax.

The examinations in history and geography have always seemed to me to be reasonable and fair, such as any one should undergo who is to enter upon a four years' course of such studies as are taught at the Military Academy.

General Fry should reflect that the laws governing the admission of cadets have been seriously modified in recent years. The minimum age of candidates is now seventeen years, and surely any boy at that age, in whatever part of the country he may be found, or however circumscribed his means of acquiring knowledge, can get, in the commonest kind of common schools, the instruction needed to pass such an examination as I have described herein, and if any boy of that age has not acquired such knowledge he is not deserving of an appointment to the Military or the Naval Academy. I know there are many such, and pity 'tis, 'tis true, but such as come to me from the public schools really need only a few weeks' coaching to become familiar with the methods of the written examinations. They already know the matter on which they are to be examined. But those who come to me from private schools rarely know anything about the matter, and generally need to learn the very rudiments of English grammar and of arithmetic. They are often shockingly deficient in spelling. I think the theoretically poor candidates from the public schools of the country have a decided advantage over the theoretically rich candidates from the private schools. Probably the same relative superiority of the public schools in the older sections existed twenty, thirty and forty years ago that, General Fry thinks, gives an unfair advantage to candidates from those sections. If that be so the children are gathering the fruit for which the fathers planted.

I think written examinations are far better for testing the proficiency of candidates than oral ones could possibly be if prolonged through many days. I habitually have written recitations, and I find that generally the pupils stumble at the same points, and finding these I can remove the obstacles in a few minutes. All have the same questions and recite the whole lesson essentially every day. In late years it has been occasionally resorted to at West Point, and I think could be used more frequently with decided benefit to the cadets. It would give the Professors a better knowledge of the cadets, but it would give the instructors a great deal more work. While I do not believe that the Academic Board ever judge the fitness of candidates harshly, yet it would not be unwise to consider the plan which I am told is followed at the Naval Academy, viz: examine orally, before the full Board, such candidates as fail to pass on the written examinations.

To determine the method of selecting the candidates for the Military Academy belongs to Congress, and the graduates have no more to do with that than the least considerable citizen in the land, and oftentimes less, for few of them perform their political duties. To determine the method of examining candidates and instructing cadets belongs to the Academic Board under the laws which Congress enacts. It is the right and duty of all citizens to hold them to the strict performance of their duties, but I think it is peculiarly the duty of her sons to watch and resist any tendency of the Academic Board either to arrogate to itself any powers not granted, to resort to any methods not warranted by a liberal construction, or to apply any tests not approved by those who have as keen an interest in the honor and well being of our old Alma Mater as do those who are the temporary custodians of our shrine.

GENERAL CRITTENDEN—I adhere to my opinions already published on this subject in the JOURNAL, No. 2, Vol. I., viz.:

"The Superintendent of the Academy at West Point, the Visiting Committee appointed by Congress, and now the distinguished Professor* whose views we have just heard, all favor a higher educational standard for admission to West Point. I am constrained to think that this step is not only unnecessary, but unwise, and would operate injuriously on the school and the Service.

"The Professor also suggests a fifth year's study before a class can graduate—and this also seems to me would be unwise unless the educational standard should be reduced, and the additional year be placed at the beginning instead of at the end of the course.

"Mr. President, the school at West Point is supported from the National Treasury. The poorest frontiersman as well as the millionaire sustains this school. We have men alive who entered the Academy under a lower standard than the present one that rank with the foremost soldiers in the world.

"There are many institutions in the country where young men who enjoy all the advantages that wealth can give may prosecute their studies in philosophy and science after West Point has made them soldiers; there is nothing to hinder them from continuing their studies at one of these eminent institutions. Indeed, at West Point itself, whose instruction is sufficient to open at least the gates to every field of knowledge, the graduates who show extraordinary capacity for acquiring knowledge might, by being kept at the Academy as instructors, prosecute their studies, and reach any attainable eminence without any further instruction.

"In my judgment West Point should only be expected to impart such knowledge as is essential to make an accomplished soldier. If a graduate is ambitious of acquiring more knowledge, as I have before said, the gates are open, and if he has the capacity and industry, there is no obstacle which he cannot surmount without further instruction. Great scholars and great soldiers, however well instructed, at last make themselves,

"I do not think it ought to be considered beneath the dignity of a young instructor at West Point to teach a young man who only knows how to read, and write, and cipher.

"But few philosophers have been great soldiers. The patient study needful to acquire vast knowledge seems to unfit a man for the active and exposed life of a great soldier.

"It will hardly be contended that Aristotle could have surpassed Alexander as a soldier, but no one will deny his superior knowledge.

"Mr. President, I hope that West Point will remain as it has been, a great national school, open to all the able-bodied young men in the land, even of limited education, who are ambitious of serving their country as soldiers."

PROFESSOR TILLMAN—I was recently put upon a Committee to examine and report upon complaints made by two cadets of the first class in regard to the lengths of lessons in the departments of law and engineering. These two cadets complained that the lessons in said departments were so long that they could not, in the allotted time, learn them. After questioning more than half the class as to the time devoted to their different studies, we found that a majority of the class did not employ all the time allotted to study for that purpose. We also examined as to the lengths of lessons in the departments mentioned, and compared them with lessons in the same subjects at previous times. We found the lessons shorter in law than when Major Gardner, here present, was the Professor, and at other previous times.

* Professor Michie in a paper, "Education in its Relation to the Military Profession," read before the Military Service Institution Dec. 10, 1879.

The Committee reported to the Board in accordance with these facts, and did not recommend any change in the advance lessons. From the statements of the cadets in regard to the general review lessons, and from our own impressions after investigating the matter, we recommended a modification in the length of these. I presume that I was called upon in this connection to show that the Board gives due consideration to complaints of cadets when they are properly made.

While I am now up, I wish to say that General Tower has expressed the exact idea of the Professor of Mathematics in almost the very language which he (Professor Bass) expressed it to me, in regard to the difficulty of the problems which have been here referred to. Professor Bass intended to have a set of problems which could be solved by a boy of fair ability, whether he knew rules or not, but which could not be solved by the rule alone.

GENERAL HANCOCK—Are there any gentlemen present who desire to say anything further on this subject?

JUDGE ADVOCATE GARDNER—So much time has necessarily been taken up in the presentation of Professor Andrews' interesting paper, and in General Fry's valuable criticisms, that although you have, Mr. President, requested me to speak, I feel that I should not take up your time. I think, however, that this Institution is very much indebted to General Fry for bringing this subject to its attention.

As I understand it, the question as originally propounded, and from which we have, in Professor Andrews' paper, somewhat diverged, was, whether there has not been a departure in the standards and methods of examinations for admissions to the Military Academy from the intent of the laws enacted by Congress on the subject, as contemporaneously and for forty years thereafter interpreted by the War Department and by the Academic Board.

When I was Professor of Law at West Point, and the question as to the method of examinations for admission was under consideration by the Academic Board in the year 1876, I voted in favor of written examinations.

I think that the system of examination by written or printed papers, instead of wholly oral, is as good as we can have under the circumstances, when all are considered.

The Military Academy is a governmental institution, and not elymosynary, like the colleges of the country.

Cadets are sent there to be educated for the service of their Government, and not simply for their own intellectual and physical improvement.

We know that from the manner of appointment through members of Congress, there have been many instances where nominations to cadetships have been made of a political character. It is necessary, therefore, that there should be some record evidence of the examination of a candidate applying for admission, so that it cannot be charged that he was either admitted or rejected from political or personal motives. Such record evidence has, in a number of instances, always been found to be conclusive when complaints have been made by interested political friends.

However, as suggested by General Tower and others, it would seem as if a little more extended oral examination might, in some instances, be desirable.

If the requirements for admission are more thorough and strict in particular subjects than are to be found in the schools of many portions of the United States, it is always in the power of the Secretary of War, under existing laws, to assemble the candidates for admission into a preparatory or introductory class as long as may be necessary before the June examinations, and thus prevent the rejection of capable young men whose ability to pass through the regular course would be assured by some such opportunity.

On the whole, in view of the fact that Congress in 1866 increased the age for ad-

mission of cadets, and considering the advance in education and facilities for education throughout the country in the past twenty-five years, it seems to me that the system of examinations adopted by the Academic Board, after mature deliberation, and acted upon the last few years, is as good as we can have.

GENERAL HANCOCK—Up to a certain point this discussion has been an exhaustive and interesting one. However, I think it right also to consider what the public at large think concerning the matter, and what is proposed to be done about it. It is quite evident that it will come up again in some form before long. Congress, it is believed, will consider it.

Our population has extended and increased so greatly, especially in the "far West," that we have States and Territories where doubtless there are but few schools. Under these conditions, what is to become of the representation at West Point of the Congressional Districts in these States and Territories, if the preliminary examination at the Academy be so advanced that it can only be passed by those who have had the advantages of the instruction of the superior schools of the East? The law provides that such States and Territories shall be represented at the Academy; and now we desire to know what is the best manner of carrying out the intent of the law.

I do not pretend to say, but I have heard in a general way, the plan of a preparatory school advocated. It was by an able man of excellent judgment (a former Secretary of War), who did not give his opinions in print, but who stated to me a few years ago, when examining the Artillery School at Fortress Monroe, that "it was necessary that we should show the people of the West and other sparsely settled regions that they were duly represented at the Military Academy, and if we tried a five years' course, the first year to be an academic year, and at its close examine the cadets and let those who pass go on, we would no doubt have a higher standard, both on the entrance of the four years' course proper, and at the graduation of the cadets."

There would be this advantage in this system, that those sent away without graduating would learn at least to command companies, and would return to their homes with habits of discipline and drill, so that in case the country had wars or disorders, it would have the services of those men and the useful knowledge they had acquired at the Academy.

IMPORTANT IMPROVEMENTS IN THE ART OF WAR IN THE LAST TWENTY YEARS AND THEIR PROBABLE EFFECT ON FUTURE MILITARY OPERATIONS.

BY BVT. MAJOR-GENERAL WESLEY MERRITT, U. S. A.,

COLONEL FIFTH CAVALRY,

THE bulk of armies will undoubtedly continue in the future, as in the past, to be infantry. Consequently any changes that affect the efficiency of foot troops rank highest in the order of importance, and a full discussion of these in all their bearings must go far to exhaust the subject before us.

But let us not commit the error too common at this time, and attempt to measure the changes necessary for the future operations of war by the mechanical improvements in the weapons of war. While it is a fact that recent infantry small arms may be fired many times more rapidly than those in use in 1860, it must not be concluded that this fact furnishes the ratio of the strength of an army provided with the improved arm, as compared with an army equipped only with the old. As well conclude that because the improved arm has a range of over a mile, that this range indicates the distance at which armies in the future will fight battles.¹

Breech-loading arms are as old as gunpowder itself, but they were not adopted by any power until about forty years since, when Prussia armed some sixty thousand men with the breech-loader. Most other nations were content up to as late as 1860 with converting the old flint-lock smooth bore into the percussion rifle. At this time was recognized the necessity of improving the system of sighting for long

ranges, and rifles were furnished with elevating sights graduated up to various limits from two hundred to one thousand yards. The ball had also been improved, and was given various elongated forms. The rifle, with the improved ammunition, was regarded as destructive at one thousand yards, and was considered accurate up to five hundred yards. They could be fired about three times in two minutes. In the meantime Prussia kept adding to her supply of needle guns, and quietly experimenting with breech-loaders and their ammunition, both in small arms and artillery, and while these were not brought to perfection, they were adopted for her army, and in her two great wars of modern times Germany has felt the advantages and reaped the reward of her enterprise. In 1864 the attention of the world was attracted to the improved arms, as used by the Prussians in the contest with Denmark, but her success was attributed rather to the weakness of her adversary than to the excellence of her equipment.² In 1866 Prussia conquered Austria in a six weeks' campaign, and before the next great war every nation pretending to any importance as a military Power had adopted a breech-loading system. Strangely enough, as soon as the inventive genius of other nations was set to work under the incentive of Prussia's success, the war of 1870-1 showed that other Powers had surpassed her in improvements, and possessed breech-loaders superior to those worked out in years of labor and earnest application by Prussia.³ Among the new inventions adopted after this war was the metallic center-primed cartridge, which in its perfection is an American device. In the manufacture of it this country leads the world. Later, the war of 1877-8, in which the Turks used the long range breech-loader at great distances and magazine guns at shorter ranges, has directed inventive talent to the work of perfecting these latter weapons, which it is not hazardous to say will be the arm of the future.⁴

At the present time all the great nations of the world are armed with breech-loading rifles provided with sights graduated as high as nineteen hundred yards, using the centre-primed metallic case cartridge and cylindro-ogeeval ball. These can be easily fired from five to seven times per minute with fatal effect up to a range of a mile and more.⁵ The elements that enter into this increase of range are reduction of calibre, increase of relative length of bullet, increase of twist in the rifling, and the increase of the charge of powder.

Infantry Tactics.—The tactics for foot troops, by which we mean the formations and manœuvres of battle, are so closely dependent on the improvements in small arms that it is impossible to discuss the one without constantly involving the principles of the other. In 1861 the systems of tactics for foot troops were as many as the nations who had armies; and, while they all to an extent recognized the necessity of skirmishers, light infantry, sharpshooters or *eclaireurs*, none had used them as a special arm

drilled in large numbers to mainly fight battles.⁶ They were used to clear the way for the main body of the army, to seek out weak points in the enemy's line, to discover the nature of the country, and the natural and artificial obstacles to the free movement of organized parts of the army, and in a desultory way to pick off officers reconnoitring, or otherwise too boldly exposing themselves. The skirmish line was not the order for battle.

The Austrian army in battle deployed a line of skirmishers, and held its supports beyond range in lines of division columns. This defect in her tactics is said to have caused Austria's defeat in war (1859). The French deployed a line of skirmishers to feel the way, and followed it closely in line of battalion columns. They then deployed in one heavy swarm of skirmishers, which, rushing forward, joined the advance line, when all threw themselves on the ground or behind such cover at close range to the enemy as was at hand, pouring a terrible fire into his ranks, which, shaking him, the whole line, with bayonets fixed, swept on to his overthrow. The English, more conservative, as usual, adhered longer to the old tactics, using, however, a few skirmishers or riflemen. The Prussians some years since had reduced the fighting unit of their armies to the size of the company, and had been busily perfecting the tactics of the company column.⁷ The company column was easily manœuvred and readily kept well in hand; the skirmishers were closely followed by their supports, who quickly filled all gaps in the advanced line from their ranks; the column itself was capable of forming line instantly on a full front, or it could send detachments quickly forward to reinforce the skirmishers.⁸ In one way or another the skirmish line had at the close of the engagement absorbed the whole company, and the victory was habitually completed by reserves or fresh troops, and so well did the Prussians manage, that they had the advantage of the use of these reserves after the enemy had exhausted his.

These tactics were used by the Prussians in the wars of 1864 and 1866. They demonstrated then that the "fighting units" in old armies were too large; that the line of skirmishers had superseded the old line of battle; that the old methods of battle were far too slow, cumbrous and unwieldy; that "shock" tactics were disastrous against an enemy armed with breech-loaders or magazine guns. These ideas were not, however, immediately of universal adoption. However, before 1877, all great nations, except England and the United States, had adopted the *perpendicular* order as illustrated in the company column over the *linear* order of battle. The company column, easily handled and uniting the maximum number of men capable of being held under the individual influence of a single man, did not remedy all the defects of the old method of fighting. The troops of brigades and even of corps were, as before, irretrievably

mixed up during the changes of battle, and masses of troops were too often exposed to the destructive fire of the breech-loader and mitrailleuse. Pursuit with troops exhausted by hard fighting was hardly possible. The victory had to be consummated by other troops brought on the field with organization intact and fresh for the purpose, and, as in former wars, the side that was able to bring forward the reserves last won the day. In 1877 the Russians, although adopting the company column, failed to fully understand its uses. Adhering to "shock" tactics, they marched in lines of two ranks, or in lines of company columns, with platoon front, and deployed only a thin line of skirmishers too weak to make an impression on the enemy. In this order they attacked even intrenchments and failed miserably. These mistakes were not, however, made by General Skobelev in his assaults. This distinguished General made an attack by sending forward a line of skirmishers, followed by its supports and by other lines successively, each succeeding line being pressed forward when the one in advance seemed to falter, and each reinforcement carrying the line in advance some distance ahead of where it had halted. Then, when satisfied by personal observation of the arrival of the opportune moment by seeing the enemy waver, he placed himself at the head of all his fresh troops, which he had held well in hand for the purpose, and delivered a blow which never failed to complete his victory. This method was successfully used against intrenchments, and in such manner as to render nugatory or impossible the counter attacks on the flank by reserves from the retrenchments, which had been practiced in modern wars by the Germans. The open order of battle does not, however, depend alone upon the company column. The United States tactics recognize the open order, and introduce a new feature in the deployment by numbers.

This method has the defect of leaving the successive lines without supports, and not providing by any tactical command for such deployment from column. Also the deployment with us is made from a line of two ranks, instead of from three, and is consequently too weak in the final struggle. If these defects can be remedied, it would seem that the American system of deployment by numbers with the unit of four and the double column of fours is best adapted to our army, and perhaps to those of other nations. The objection of final disorganization after and during a battle applies to every system hitherto devised.⁹

Artillery.—Modern artillery has undergone a great change in the last twenty to thirty-five years. The rifle replaced the smooth bore, and was tested in 1859. In 1861 Krupp had made the first of his rifled field guns of ingot steel, and the United States adopted the wrought iron three-inch rifle in the same year. Prussia adopted the Krupp breech-loading rifle for field service, and England adopted the Armstrong breech-loaders in

1862, but discarded them in 1866. Prussia used her breech-loaders in 1864 and 1866. All other nations were then armed with muzzle-loading rifles. Great results attended the Prussians in 1870-1 with their field artillery, and this success led to the adoption of breech-loaders by all other great nations except England.¹⁰ Germany, too, underwent a complete change, the result being a still more powerful artillery, which was adopted in 1872. Coincident with the development of artillery were the following: 1st, the use of steel and iron in the gun carriages; 2d, the successful use of hollow projectiles—notably the shrapnel steel; and 3rd, the increase in number of their effective fragments. The latest field artillery adopted has not yet stood the test of actual war. It has left even the excellent artillery of 1870-1 far behind. It is terribly destructive up to 3,000 yards, at which rifle firing is practically useless. Twenty years ago field guns could be fired once or twice in a minute: now they can be fired two to four times in a minute. The following is an example of the practice of Krupp *light* field gun 2.95 inch calibre, weighing only 2,144 pounds, with limber, ammunition and accessories complete: At 2,000 yards 50 per cent. of hits were on a space 38 inches by 29 inches—about the size of an inner on a Creedmoor target. At 4,500 yards 50 per cent. of hits were on a space 55 yards by 6 yards.

Siege artillery progressed correspondingly with field artillery. The following is an example of the practice of the 4.1 inch gun at Meppen in 1879. This is the lightest siege gun, as the other is one of the lightest field guns. Ten shots fired at a horizontal target at 9,500 yards (over $5\frac{1}{2}$ miles) were dispersed over a distance in length 311 yards and in width 45 yards. This piece with carriage weighs something over 4,000 pounds, and might not infrequently be used as a field piece.

Machine guns were used by the Danes in 1864. The 45-calibre gal-lery gun was adopted by us in 1868. The French mitrailleuse was used in 1870-1. No machine guns gave good results until Gatling's inventions were perfected. We now have that and some other very good ones. The Hotchkiss revolving cannon fires a bullet 1.85 inch in diameter. These guns are intended more or less to replace rapid infantry fire, and their efficiency is very great in certain cases. The disadvantages are that they are of but little use against troops protected by woods, villages, intrenchments or walls; they cannot be relied on to deliver a curved fire; they cannot contend against artillery at long ranges, if at all; consequently they do not replace artillery, while they have its disadvantages.¹¹

As with small arms, the main difficulty in applying breech-loading to larger weapons is found in the escape of gas at the breech. The application of a suitable gas check has made possible the use of breech-loading principles in very large guns. By absorbing the recoil by pneumatic and hydraulic buffers, by the use of a shield in front, in which the muz-

zle works in a ball and socket joint, by the use of iron and steel in fortress carriages, great improvements were made. These improvements and the application of improved machinery for loading reduced the time for loading heavy guns from 35 and 40 minutes to 1 and 2 minutes. In our country great results are expected in the conversion of the old cast iron Rodman guns by the introduction of a steel core. Krupp's breech-loading guns may fairly be said to be the best in the world. Out of 10,000 breech-loading guns used in all armies, 8,000 have been made by Krupp. They are of almost every size from 2.95 inches to 15 $\frac{1}{4}$ inches in diameter of bores.

Next to the infantry the artillery in future is to be the most important factor of an army in actual battle. Whatever doubt there may have been about this in the past wars, modern improvements seem to leave no ground for discussion as to this in the future. But, as in the infantry, there is necessity for very important modification and changes in the tactics of this arm. It must be used with extreme boldness. Light batteries must always be at hand to take vantage positions on the skirmish line, and, by rapid work, to aid the infantry in forcing the enemy out of strong positions. In the heat of battle it must be massed and pushed boldly within easy range of the enemy's line, ready at all times while combatting the enemy's artillery to fire upon any masses of his troops at longer ranges which he may be so unskilful as to expose.¹³ It will, as heretofore, begin and develop the battle; and, unlike in its past, it will be used by an army in retreat, with its rear guard, to punish the too confident pursuit of an over sanguine foe, and to protect the rallying of beaten troops being organized for fresh resistance. The theory that artillery cannot protect itself has been carried too far in the past, and that theory must so far be modified in the future as to prevent the paralyzing of important bodies of troops as supports to guns doing nothing or only remotely engaged in the action. The perfection of artillery in future wars must depend on the capacity and energy of battery commanders, the discipline and drill of the men, alertness and boldness of action, rapidity and judgment of its fire, and a general unison of action between it and the fighting lines, which will make it an important factor prominent even to the skirmishers in every organization where fighting is being done. Who of experience in our Civil War has not heard the supports of artillery grumble at the inactivity for them as such in a battle, and who has not observed the *esprit* of a line in fighting for its artillery when the guns in action were kept on the skirmish line by an active commander, when the men in ranks could realize how important an ally these guns were if properly handled? At the same time it must not be forgotten that the use of artillery will in the future, as in the past, depend greatly on the nature of the country which constitutes the theatre of war. It will be remembered that Gen-

eral Grant, after the Wilderness, in 1864, sent his reserve artillery to the rear. The Prussians in France, a country favorable to the use of artillery, obtained wonderful results with it in 1870-1. Again, in 1877-8, the Turks felt the want of artillery, while the Russians, with a very powerful artillery, accomplished very little.

Cavalry.—Experience teaches that the uses of cavalry in future warfare will, like that of the artillery, be more extended, if not different from the uses it was put to in the times of Frederick the Great and the first Napoleon. At the same time it must not be concluded that it will never again be used successfully in battle. While our Civil War demonstrated that cavalry had uses during a campaign not before known to the world, it at the same time showed that a judicious use of cavalry, even on the field of battle, either mounted or on foot, added greatly to the success of an enterprising commander.

In 1864 and 1866 the Prussian cavalry was inferior, and even in 1870 was badly managed.¹³ Its service in out-post duty and reconnoissance was good so far as it went, but the efficiency of it as an arm seems to have been neglected by the Germans in their care for the infantry and artillery. The failure of cavalry to accomplish much on either side in the two great modern wars of Europe has misled the uninformed, and many well-informed officers, who have paid more attention to other matters, have been led into the error of believing that cavalry could not in future be used successfully in battle.

A glance at the history of this arm during the Middle Ages as compared with the present time will convince the careful student as to its future.

The introduction of gun-powder and its gradual application to small arms created a revolution in the organization of armies and lessened the importance of cavalry for a time.

The heavy armor was discarded as useless against bullets, and cavalry degenerated into a sort of mounted infantry, which became less useful, while the infantry and artillery arms increased in importance. Battles, instead of being hand-to-hand conflicts, were fought at a distance, and the mounted troops and those on foot moved in one body, the horses being used as means of transporting troops from one point to another, the foot troops keeping pace with the mounted. This, of course, ruined the cavalry for its legitimate warfare, but it had the good effect of reducing to an extent its unwieldy formations. In 1630 Gustavus Adolphus reduced the number of ranks in his cavalry formations to three. The same thing was done in France about the same time, but it was not until more than a century later that the two-rank formation was adopted by the French. In spite of these changes, the action of cavalry was hampered, and its powers paralyzed by combining it with infantry and using

it with timidity until the warlike Swede came to the rescue, and under Charles XII. rode sabre in hand against all arms, in any kind of country, and even over fortified positions, overcoming and destroying all opposition.

It is said that out of twenty-two great battles fought by Frederick or his Generals, the cavalry won fifteen. Finally, in the latter part of the last and in the beginning of our own century, the cavalry of the first Napoleon achieved new wonders when led by competent chieftains and inspired with a just sense of its invincibility. History shows that it fell away from its former glory after the Seven Years' War, and only again reached its high standard under a new and born conqueror. Since that time there has been another decadence of its legitimate powers as an arm of the service, which is probably attributable to the fact that in the recent wars it has not had the same opportunities for success that were given it by the master minds in war, rather than that under the new conditions of warfare, the precision and rapidity of fire of small arms, it is less efficient in war as an arm of the service. There are two important considerations for the success of cavalry apart from those that cover its efficiency in drill, discipline and organization; and these are, first, that the officer chief in command of an army shall permit or direct its employment in large masses, untrammelled by detailed orders; and, second, that it shall have competent chiefs who have confidence in its power, and who will lead it into action at such times and at such places as it will do the most good. Caution, discretion and good judgment must be paramount in its chief until an attack is decided on, and then, throwing these to the winds, he and everybody with him must charge home determined to succeed.

In our own country the Indian of the plains is a perfect light horseman. His method of warfare, like that of the Turks and Mamelukes, is almost always individual, rather than concerted and organized, as among civilized nations. His strength is in his capacity as a horseman and in his powers as a marksman. He is quick in his movements, wily as a foe, depending on his own skill as a skirmisher rather than on directions or commands from a superior. They move in groups with the rapidity of the wind, finding the weak points and concentrating in numbers at all vantage positions as if by instinct, and disperse again if confronted by numbers, only to repeat the attack at new weak points. They use fire-arms with great accuracy while mounted, even in rapid motion. Add to this that their horses are trained as well as the riders themselves, that they halt and stand steady on an indication from their riders, that they stand still without holding when their riders dismount to fight on foot, that they are even in their gaits, quick in their movements, enduring and sure-footed in the roughest country, and we have a character of light horsemen that future armies might be happy in possessing.

The cavalry of the future may be all that cavalry has been in the past under the same conditions. It must have army commanders who will organize it and leaders who will conduct it to victory. The timidity now existing as to the bullets of the rapid shooting small arms will be overcome by some new Charles, as was that greater timidity with reference to the newly discovered gun-powder and newly invented small arms of the early modern ages. The single rank formation of modern cavalry supplemented by clouds of skirmishers to envelope an army attacking it in flanks and rear when it is disorganized, either by defeat or victory, will solve the question for all time to come of the usefulness of cavalry under the new conditions of warfare.

In the Franco-Prussian War we find history repeating itself. The celebrated charge of Michel's cuirassiers was made under a misapprehension of orders, and was more disastrous than the charge at Balaklava: at the same time it accomplished a good result, as, according to the German Staff history, "This chivalrous advance of the cavalry had enabled the French infantry of the extreme right wing to withdraw unmolested to Eberbach." This instance, and the case of the destruction of a German cavalry division at Gravelotte, which was sacrificed to delay the retreat of Bazaine's army until the German infantry could come up, are the notable cases of the uses of cavalry as such in the war.

They are extreme cases, justified only as acts of war, because of the useful results. The events involving the use of cavalry in our own Civil War are too fresh in the minds of all living students of military affairs to need mention here. It is sufficient to say that the war is full of examples of the successful use of cavalry in battle, both mounted and on foot. The more extended use made by us of that arm, organized in large bodies and operating independently, bids fair to be imitated by all the Continental powers of Europe. In 1877 Gourko's capture of Schipka was in its nature much like one of the cavalry raids of our Civil War. In the same year the large force of cavalry under Lotoff organized and sent in rear of Plevna to interrupt the enemy's communications and cut off his supplies failed only because of the incapacity of its commander. Since that war the manœuvres of the Prussian, Austrian, and Russian armies show symptoms of a change to this more extended use of cavalry. They seem now to have caught the spirit of the full use of cavalry as illustrated in our Civil War, and it is not doubted that they now regret not having learned the lesson before. It is even thought by competent judges that in 1866 Benedek, by an energetic use of his cavalry, might have delayed the advance of the Crown Prince, and, taking advantage of the time thus gained, have defeated Prince Frederick Charles. Also that the Prussians, by a skilful use of their cavalry after the investment of Paris, could have entirely prevented the organization and concentration of the several pro-

visional French armies that so soon endangered the success of the investment and raised the hopes of the French to such a degree as to prolong the war several months.

Engineering.—In the limits of a paper of this character it cannot be undertaken to discuss that part of the improvements in engineering which relates to permanent works, but a discussion of the modern improvements in the art of war would be incomplete did it fail to treat of temporary works as used by modern armies in the field. Field fortifications are not of modern origin, for the Romans habitually fortified their camps, though only to be occupied a single day. The battle of Shiloh during our Civil War indicated that an army may be surprised and beaten by failing to protect its camps with field works. After Shiloh the pick and spade were freely used, and an army, either Union or Confederate, rarely halted even for a night without intrenching.

If the halt was longer the intrenchments assumed great proportions, being protected in front by entanglements and abattis which rendered assault impossible and even exit most difficult. Soon the army on the offensive found itself compelled to adopt intrenchments also, and remarkable skill and facility were shown in their construction. Thus the armies under Grant and Sherman, each superior to the enemy and moving rapidly by the flank, while keeping their fronts entrenched, endeavored to force him from cover to fight in the open. The flanking movements were successful in forcing the Confederates from their intrenchments, but the Union troops were always immediately opposed by new fortifications, which were thrown up as if by magic; this, too, at times when the ground was partially frozen.

Again Europe, profiting by this lesson of our Civil War, cast about her for a proper intrenching tool. Austria, after various experiments, adopted the Linneman spade in 1874, and was quickly followed by other nations of the Old World. It was not furnished to the Russians until too late for service in 1878, so that it has not stood the test of actual war. But intrenchments, however erected, were used by the Russians and the Turks, and the great value of them to an army on the defensive was particularly demonstrated. The Turks especially brought this system of defensive warfare to great perfection, providing in some of their more extensive works several lines of fire by building immense parapets and digging ditches arranged like terraces on the front of hills occupied as strongholds. The intrenchments at Plevna built by the Turks are a favorable example of the immense advantage of works of this kind to an army on the defensive. The Turks made the mistake of holding them too long, but even this is palliated by the fact that at the time they were shut up they were awaiting the assistance of an auxiliary army, which, acting with that of Osman, might have prevented a further advance of the Russians during the campaign.

In our own war there were numerous instances where these intrenchments replaced to advantage the uses of the old permanent works, withstanding the attacks of battle as well as the approaches of a siege, and even mining. Among the advantages of their use are their inexpensiveness, adaptability to changes to meet the exigencies of war, their facilities for extension in any direction, and the ease with which they are erected. There can be no doubt but in the future, temporary works, whether to protect an army in camp, or, supplemented by more permanent ones, to protect important cities or strategic points, will play a most important part.

Railways.—Of late years railways have exerted a most important influence in war. The Germans, who must for some years to come be the guides of all warlike nations, think the railway service so important as to require officers to serve longer in its division of the General Staff than in any other. In Germany the railway employés are excused from field service for some time after the commencement of a war, in order that the rapid concentration of troops may be accelerated. Railways now determine lines of operations, places of concentration, strategic points, and often fields of great battles. Their position may involve the result of a campaign or the fate of a country in war. Their destination may thwart the object of an army and compel its retreat. These facts necessitate the careful study of the railway system of a country in planning a campaign. Provisions must be made for protecting our own roads and means be kept at hand for repairing them when injured by the enemy. During our Civil War in Sherman's campaigns no amount of raiding by a bold and active cavalry interrupted his advance or the supply of his army for more than a few days at a time. Often as many as ten thousand men were engaged in repairing his communications in railways, while many more were employed in protecting them.

And now we come to the most important requirement of the future army, and that is, how shall the rank and file be instructed? There is scarcely room for a difference of opinion on this most important subject. Armies have ceased to be the machines which are to move in battle with the smoothness and precision of clock work; they must be composed of masses, each individual of which is a cool, calculating and intelligent being, skilled in the use of his weapon, and informed as to when it is best to use it and in what way. The days for battles fought with troops in large bodies, moving with the precision of parade, are gone forever. Now in battles, as in nature, the fittest must survive. While discipline and drill are important, as of old, the necessities of the future service will require that these be accomplished in teaching the soldier how to perfect himself in the use of his arm. This is true whether we consider the infantry, artillery or cavalry soldier. Instruction must be given to each

individual, and the soldier must be made a marksman. The army that fails is almost certain to be beaten if its opponent is better prepared in this particular. It follows that the more intelligent the rank and file of an army is, the better it is fitted with the same instruction to overcome a foe. In this point of view our own country is particularly fortunate.

Until breech-loading arms were fairly tested in recent wars, a grave objection to their successful introduction was the danger that the ammunition would become exhausted by rapid and unnecessary firing. It became an important problem to solve as to how the ammunition for a great army was to be transported and supplied to commands engaged. It is a question no longer. Experience has taught that, with well instructed troops, each man can carry all the cartridges that he will be forced to expend, even with the magazine gun, in a day's battle. The instances where the German troops, in the recent war with France, exhausted the ammunition which they carried on their persons were extremely rare. At Sebastopol, during a siege of three hundred and thirty-four days, each army (with muzzle-loaders) expended at the rate of about one hundred and seventy rounds per man, and in our own war, with like arms, the ammunition carried by each man was forty rounds and upwards, which amount was frequently expended by entire divisions in one battle. In the campaign of 1866—in the six weeks' campaign, in which at least one great battle was fought—the Prussians, armed with the breech-loader, expended ammunition at the rate of about five rounds per man. At Königgratz the expenditure ranged from a few rounds per man up to as high as seventy rounds.

It is scarcely necessary to multiply instances to prove that the better the instruction of the troops in the proper use of their arms, the less the waste of ammunition. And it is hardly necessary to bring proofs to establish the fact that, if men are perfected in the use of the breech-loader, it takes no more powder and lead to decide a battle with them than with the old arms. In fact, the converse of this might be established by a reference to modern instances in point. Everything depends on the instruction of the men. The French armies in the battles around Metz expended twenty-five rounds per man, while the German 7th corps in the same time made an expenditure of from six to fifteen rounds. Again, at the siege of Plevna, the Russian expenditure of ammunition did not probably exceed seventy rounds, while that of the Turks was fully two hundred rounds per man. The German nation being the first to adopt modern improvements in firearms was the first to reap the advantages. But it was not to the excellence of her armament alone that Germany was indebted for her success. She had long since discovered the force of the maxim, "In time of peace prepare for war." And never was principle better illustrated than in the organization and discipline of the armies of Ger-

many. Her system of recruiting and supplying her armies had been worked out and perfected by years of patient, but energetic labor. Besides, she had all the advantages which accrue to a Power whose ruler's commands are military law. The nearer the military rule of an army in time of war approaches absolutism, however democratic the form of civil government of the nation to which it belongs, the better will it be for both nation and army. Small arms and their improvements can have no possible effect upon grand tactics. The form of army government has everything to do with them. It is as old as war itself that there must be but one head in supplying, directing and controlling an army. But how differently nations learn and apply the lessons of history! In the great war between Germany and France, which so largely occupies the attention of the military student even at this time, although the result with both nations impresses the same lesson, in the case of the latter it is negatively impressed. Nothing had been neglected to assure equal, if not greater, chances of success for Germany, provided the French army was all it should have been. What was the result? One French army of invasion destroyed at Würth, another badly beaten and shut up in Metz, and a third, the last of the French organized force, captured at Sedan, while moving, against all reason, to the assistance of the besieged second army. If MacMahon could have used this last army for the defense of Paris, as he desired, there is little doubt that the siege of Paris would have been prolonged, even if the Germans could successfully have invested as they did, and the fortunes of war might have been more equally balanced and France have made reasonable terms in her defeat.

The wonderful preparations of the German army, down to the smallest minutæ; the close calculations of the capacity of the means of transportation; the brilliant combinations accomplished to the smallest part of a day; all entered into the final successes of the German army, and must in future be as potently involved. The great Chief of Staff of the German army completed his project for the war with France in the winter of 1868-9, and in it he said: "Our mobilization is complete down to the most minute details. Six through railways are available for transport to the district between the Rhine and the Moselle. Time-tables indicating the day and hour for the departure and arrival of every train are prepared." He knew that the French could not oppose more than two hundred and fifty thousand men during the first days of the war, and only about one hundred thousand in addition after the reserves were in the field. He knew that in ten days he could bring three hundred thousand men to the front, and in eighteen days he could be superior to any force the French could command. He knew that the most the French could do was to reach the Rhine, and that he could meet and overwhelm them if they attempted to attack Prussia and North Germany. He knew that

if they attacked South Germany he could cut them off from their base by a flank attack. Defensive lines had been reconnoitred on French territory by officers of the German Staff. Maps of France had been prepared. Every possible contingency had been provided for. It was only necessary to insert the date of the first day of mobilization in the marching and time-tables for the movement of the troops to commence, and the dates of their arrival at the points of concentration to be known. In less than three weeks from the time of the declaration of war, three powerful armies, aggregating nearly half a million of men, complete even to the second line of trains, invaded the territory of the doomed enemy. Is it wonderful that success attended such combinations, such preparation, such *work*? In commenting on modern wars and the large armies with which they are waged, a distinguished military writer says: "War is made now-a-days with armies a million strong. This is all very well while the invading force meets no very serious obstacle, either in front or on one of its flanks; when the combinations which such a vast display of forces necessitates are not disturbed at any point, and when the strategic operations upon the ground succeed each other with perfect precision, as one might trace them on a map in one's study. But these enormous agglomerations of men could give rise in a single day to appalling perils, after a grave check on one of their flanks. Such masses can be advanced, fed, and manœuvred only by means of a complicated, and therefore delicate and easily deranged machinery."

Whatever doubts may arise as to the fate of these great armies in the future, we have the history of the past few years to testify to their success under favorable circumstances. And more, the great military spirits of Germany, who must be regarded as the greatest in the world, at least in theory, not content with being able to put twelve hundred thousand men in the field, made a complete re-organization of their laws for mobilization in 1874 based on their experience of 1870, and now it is calculated that in 1886 Germany will be able to put one million six hundred thousand men in the field besides the Landsturm. Even while we write the papers of the day inform us that the German budget just passed contemplates the support of a standing army of fifty thousand men, provision for the increase of which to a hundred thousand can be made in twenty-four hours by telegraph. Surely this looks as though political considerations at home rather than an enemy in the field could destroy such a military establishment. Another feature in the management of modern armies as likely to hold in the future is the dispensing with the old methods of forming lines of battles. In late wars battles have been fought by the most successful leaders pressing the fighting at once after arriving on the field, using and inventing tactics to rapidly develop a fighting front. This course was pursued by the Germans in France, by

the Russians in Turkey, and at times in our own Civil War. The Confederates at Gettysburg, in the Wilderness, and at the second Bull Run pursued these tactics, and the Union troops very notably after the evacuation of Petersburg.

Another fact which forces itself on the mind of the student of modern history is that the large armies at present brought into the zone of operations render it impossible for any one hand to control the different parts of an army in the midst of a battle. The principal battles first fought between the Prussians and French were brought on and continued to the end by circumstances beyond even the control of the immediate army commanders: much more beyond the power of those in supreme command. This fact, resulting from the perfect preparations before the scene of active operations was reached, is likely to hold on one side or the other in all future wars. Consequently happy will it be for that nation which enters a war best prepared for the exigencies of battle.

This fact introduces a new element in modern armies, particularly noticeable in the German army, by which, owing to the genuine spirit of comradeship, and the loyalty and unfailing love for the cause for which they were fighting, every officer from the lowest subaltern to the highest division or corps commander led or sent his command into the combat as well on the request of his neighbor as when ordered to do so by his superior, and always on the necessity of this course being apparent, whether demonstrated to his sight by a view of the field of battle or only made apparent to his ear by the noise of the guns of those engaged.

At Wörth a German battalion marched $27\frac{1}{2}$ miles in thirteen hours and at once went into action.

Let us not be deceived into believing that this method of fighting is in obedience to the old rule established in the times of the first Napoleon, which required a command to march without orders in the direction of the noise of a battle. It is more. It is the out-growth of modern improvements in the art of war—the direct result of the teachings of the best military spirits of our age.

Both at Wörth and at Spicheren in the Franco-Prussian War the battles were brought on and mainly fought without orders from the army commanders. This was done by corps and division commanders who, in carrying out the orders received from army headquarters, found themselves involved in battle, and calling on those near them for assistance met with a genuine response. This action was taken even sometimes in violation of orders when sound judgment showed these last were given when the new state of affairs could not have been anticipated. At Wörth a Division General (v. Hartmann) received orders to "suspend the contest." This he found it difficult to do, and shortly after, hearing the guns on another part of the line, he "resolved to renew the struggle on his

side." Also the Chief of Staff of the 5th corps, having proceeded to the position in front of Wörth, and finding the action broken off, but hearing heavy firing on both flanks, "with the concurrence of the commander of the advance guard, considered it imperative to renew the struggle, and in agreement with the General of Division orders were given bringing fresh organizations and the whole of the corps artillery into action."

Recent battles are full of instances of this character extending down to and being amplified by the commanders of squads even, which seem to indicate that as armies grow larger and are provided with improved weapons and with new tactics the necessity for the exercise of individuality from No. 4 in the skirmish line up to the first corps commander in the army is imperatively necessary.

These facts are accented in the case of the German army by the exact reverse obtaining in the army of the French, where more than one opportunity was lost to overwhelm the Germans if there had been cordial co-operation among the French corps commanders. Modern history furnishes abundant evidence, both positive and negative, to show that the future law of armies must instil this new doctrine of cordial support among commanders as rising superior to all reasoning, and frequently to the annulling of orders to the contrary.

To conclude. The many improvements in the art of war enhance it as a science, and render a knowledge of it more and more difficult year by year. If in the days of Henry the VIII. and Queen Elizabeth practice with the cross-bows made the English archers more than a match for the troops on the Continent armed with fire-arms, what excellence may not be attained by Americans if they perfect themselves in the use of the wonderful arms that have been supplied them by the enterprise and labor of modern inventors. The profession of arms has always been one of great labor for those at the head of armies, and one of partial indolence for subalterns and the rank and file. Now, this is all changed. Study, application, intelligence and labor must be the rule throughout. "War," says a competent authority, "is struggle, and we find struggle everywhere in nature: it secures greatness and duration to the best educated, the most capable, the noblest and most worthy to survive. And in the present day more than ever, success in war is the result of intelligence and that which develops intelligence—*Work*."

NOTES.

¹ At the battle of Wörth the Germans waded the Sauer, breast high, in the face of a heavy fire of musketry and shell.

At Spichenen the Germans stormed the Rothesberg Heights and captured the enemy's field works.

In the same battle a battalion commander placed himself with the surviving officers at the head of his command and stormed the breastworks (two half-moon shaped intrenchments), and "bayonet to bayonet, they pressed upon the French, who fled."—*German Staff account*.

See also other instances in the Franco-Prussian War; also, Russo-Turkish War, notably at Plevna.

² In a combat in this campaign a Prussian company of one hundred and twenty-four men was suddenly attacked in rear by a detachment of Danes, numbering one hundred and eighty-four men. The Prussians stood on the defensive until the Danes arrived within 250 yards. In a few minutes' fighting the Danes were repulsed, with a loss of one hundred men. The Prussians lost two wounded.

³ Breech-loaders were more or less imperfect until after the war of 1870-1 and the general adoption of the solid drawn case. The escape of gas at the breech was sometimes so great as to burn through a handkerchief tied about the breech; the rapid fouling rendered the arms useless, unless great care was taken in frequent cleaning. The needle of the needle gun was weak and easily broken.

⁴ The defects of the magazine gun are its weight, complication of pivots and consequent liability to get out of order. It is claimed that the magazine gun is not an advantage in war, as breech-loaders have been devised which can be fired sixty times per minute, and that this rate of firing will disable any piece. While this last may be true, the magazine gun was used with great success during our Civil War by our cavalry, and often against superior bodies of infantry (notably at Deep Bottom). Besides, the increase of fire is desirable at critical moments in a battle, not for minutes, but often for a few seconds of time only.

⁵ The needle gun is said to have had a range of only about 700 yards. The Springfield carbine gives a penetration in white pine of one inch at 2,500 yards.

⁶ Generally the flank companies of a regiment were especially instructed as skirmishers, to the exclusion of the other companies of the command; sometimes entire regiments were organized with a view to this special duty.

⁷ The Prussians having introduced the company column, and while employing heavy lines of skirmishers, still as late as 1861 laid great stress on the weight of masses and volley firing. Not until they met in the field an enemy armed with breech-loaders did they abandon this error.

⁸ The Prussians rarely relieved a skirmish line, but continually reinforced it.

In the Franco-Prussian War the heaviest losses on both sides were with retreating lines.

⁹ At Wörth, in the final attack of Fröschwiller, the details "defy description, as 'troops from the south, east and north reached and stormed the common goal almost simultaneously.'"—*German Staff account*.

¹⁰ At Wörth "four French batteries opened a cannonade at distances varying from three thousand to four thousand paces. After firing a few ineffective rounds they were compelled to withdraw in consequence of the well aimed fire of Caspary's battery, "aided by that of the infantry."—*German Staff account*.

Near Gunstett two batteries of Prussian artillery silenced all the French artillery.—*German Staff account*.

At Spichenen the artillery of Bugé's (French) Division (24 guns), reinforced by a 12-pound battery, was obliged to retreat under the fire of the Prussian guns because of casualties in the teams.—*German Staff account*.

¹¹ At Wörth eighty-four guns belonging to the 5th German corps went into action at 9.30 A. M. at ranges varying from 2,400 to 400 yards. The mitrailleuse batteries of the French were compelled at once to withdraw, and soon after all the French batteries were silenced. This was done while the infantry was completing its formation.—*German Staff account.*

Also, the German battery on the Folster Heights, at Spicheren, dismounted two pieces of a mitrailleuse battery which appeared during the action, and compelled the battery to retire.—*German Staff account.*

¹² The battery (German) on the Folster Heights maintained an effective flanking fire on the Spicheren Heights. Columns of infantry, which on several occasions attempted to gain the Rothesberg Heights from the rear, were forced by its fire to retire. Two hostile batteries which attempted to come into action on the heights against it were likewise prevented from doing so.—*German Staff account.*

¹³ "A terror of the enemy's cavalry had seized them, and there was no holding them back; they left the field in the greatest confusion."—*Early to Lee, October 20th, 1864 (taken from Badeau).*

"The French cavalry was vigorously employed in the struggle" (Wörth).—*German Staff account.*

Five Prussian squadrons captured about 200 men and officers, and a gun, and a number of wagons, together with 240 horses.

The advance guard of the Wurtemberg reserve cavalry attacked an unbroken detachment of French infantry and dispersed it.

Two squadrons at Reichshoffen, "regardless of the place being barricaded and "occupied by the enemy, did not hesitate to attack, sabre in hand." They forced their way through the barricade and captured all the French in the town. The Wurtemberg cavalry captured a French battery near Mianbrone, the battery being protected by infantry. Other captures of trains, locomotives and railway material were made by the cavalry.—*German Staff account.*

¹⁴ "Order of battle is the order of attack."—*Jomini.*

Per contra, Badeau, speaking of Winchester, "It was 9 o'clock before an advance in line could be effected."

¹⁵ While the battle at Wörth had been raging since early in the day, it is recorded in the German Staff account of the war that "At 1 P. M. the Crown Prince reached the heights in front of Wörth, and personally assumed the conduct of the battle."

¹⁶ General Lee is quoted as saying, "I do my best to render my plans as perfect as possible, but on the day of battle I put the fate of my army in the hands of God. It is the turn of my Generals to show their knowledge of their trade."

Again, after the battle of Gettysburg, "During the battle my direction is more harm than use; I must then rely on my division and brigade commanders. I think and I work with all my might to bring my troops at the right place at the proper moment; after that I have done my duty. As soon as I have thrown my troops into battle I put the fate of my army in the hands of God."

At Wörth a corps commander sent word to a neighboring corps that he was about to attack the enemy's position in his front, and that he calculated on the co-operation of both wings; the reply he received was that the action had been broken off by superior orders, but would be resumed with the least possible delay.

NOTE.—In connection with the foregoing paper the following communication is published.—[EDS.]

UNITED STATES MILITARY ACADEMY,
WEST POINT, N. Y., October 3d, 1882.

DEAR SIR:

I am in receipt of your favor of September 26th, informing me that my paper on "The Important Improvements in the Art of War during the past Twenty Years and their Probable Effect on Future Military Operations" has received honorable mention by the Board of Award.

I am much obliged for your courtesy, and am convinced that the Board in saying mine "is an able paper, but is not so rich in examples and statistics as the others," has made a very just, if not too flattering, criticism of the essay, which was prepared on the frontier under disadvantages as to time and means of reference of a peculiar character.

Very truly yours,

(Signed) W. MERRITT.

H. O. PERLEY, Assistant Secretary,
Military Service Institution.

PUBLICATIONS RECEIVED.

FOR THE LIBRARY REVIEW.

- Proceedings, Findings and Opinions of the Court of Inquiry in the Case of Gouverneur K. Warren, late Major-General of Volunteers.* (Washington.) Government Printing Office. 1883.
- Professional Papers of the Corps of Royal Engineers.* Royal Engineers' Institute Occasional Papers. Vol. VII. (London.) 1883.
- Professional Papers Corps of Engineers, U. S. Army.* No. 25. Report upon the Practice in Europe with the Heavy Armstrong, Woolwich and Krupp Rifled Guns. (Washington.) Government Printing Office. 1883.
- Report of the Chief of Ordnance for the year 1882.* (Washington.) Government Printing Office. 1882.
- Annual Report of the Adjutant-General of the State of Massachusetts for 1882.*
- Campaigns of the Civil War—XII.* "The Virginia Campaign of '64 and '65—The Army of the Potomac and the Army of the James." By Andrew A. Humphreys, Brigadier-General, Chief of Ordnance, &c., &c. (New York.) Charles Scribner's Sons. 1883.
- Campaigns of the Civil War.* Supplementary Volume. Statistical Record of the Armies of the United States. By Frederick Phisterer, late Captain U. S. A.
- Report of the Chief of Engineers U. S. Army for the year 1882.* (Washington.) Government Printing Office. 1882.

IN EXCHANGE.

- Memorial de Artilleria. Publicado Por La Direccion General Del Arma.* (Madrid). March and April, 1883.
- Ordnance Notes.* (Washington.) Ordnance Dept., U. S. A. Nos. 236 to 238, 240 to 249, 251, 252, 254, 259.
- The Magazine of American History.* April, 1883. (New York.) A. S. Barnes & Co.
- Monthly Weather Review.* (Washington, D. C.) War Department. February and March, 1883.
- Kongl. Krigsvetenskaps-Akademien Handlingar och Tidskrift.* (Stockholm.) Mar. and Apr., 1883.
- The Pennsylvania Magazine of History and Biography* Vol. VI. No. 4. (Philadelphia.) 1882.
- Giornale di Artiglieria e Genio.* (Roma.) January and February, 1883.
- The Century.* May and June, 1883. (New York.) The Century Company.
- St. Nicholas.* May and June, 1883. (New York.) The Century Company.
- Proceedings of the United States Naval Institute.* Vol. IX. No. 1. (Annapolis.) 1883.
- Van Nostrand's Engineering Magazine.* May, 1883. (New York.) D. Van Nostrand.
- The Army and Navy Journal.* (New York.) W. C. & F. P. Church, to date.
- The Army and Navy Register.* (Washington.) Army and Navy Register Publishing Company.
- The Sunday Herald.* (Washington.) I. N. Burritt, to date.

CORRESPONDENCE.

[Comprising selections of especial interest to Members and the Military Service generally.]

"MINA AND HIS THREE HUNDRED."

LEGATION OF THE UNITED STATES,

BRUSSELS, *April 25th*, 1883.

MY DEAR GENERAL:

Referring to mine of 22d inst., I have now the pleasure of enclosing herewith a letter from my colleague, the Mexican Minister here, thanking me for the copy of "Mina and His Three Hundred" which your INSTITUTION so kindly furnished him at my request.

I think it may be of interest for you as well as for Captain Potter to have the impartial criticism of one of the best informed men I have ever met.

I remain, my dear General,
Very truly yours,

GEN. T. F. RODENBOUGH, U. S. A.

NICHOLAS FISH.

BRUSSELS, *April 23d*, 1883.

MY DEAR COLLEAGUE:

I have read Captain Potter's article, "Mina and His Three Hundred," with great interest, and, as a Mexican, I cannot but express my gratitude for the pains he has taken in reviewing and reconstructing a brilliant page of our national history. Mr. Davis Bradburn was undoubtedly entitled to full credit as an eye-witness and a party in the events which he narrated to Captain Potter. I always thought that somebody besides Robinson had written an account of Mina's expedition, and wondered it had not come out. What a pity that the original manuscript was lost. There is a book published in Guanajuato in 1868, by Don José de Liceaga, who accompanied General Mina during the last days of his life, and warned him on the night of his capture of the approach of the enemy. His narration and Mr. Potter's are the only impartial accounts that I know about General Mina and his gallant three hundred. Mr. Alman, our most prominent historian, and Torriente wrote without sufficient data and under strong political affections.

Begging you to thank the editors of the JOURNAL OF THE MILITARY SERVICE INSTITUTION for their kindness, and thanking you most sincerely at the same time,

I remain, my dear Colleague,
Your old friend,

HON. NICHOLAS FISH.

A. NUÑEZ ORTEGA.

VALUE OF THE JOURNAL.

"I wish I could see some way to canvass among the National Guard officers for your JOURNAL. Some handy cards about the JOURNAL alone ought to be printed for distribution to people. Most of them get the membership confounded with the JOURNAL. People must learn that the JOURNAL is worth all the money. It is worth five dollars a year. They get it for two dollars. * * * I asked — why he did not write. He said he hadn't been asked. I suggested that asking every one was impossible. I find many waiting to be asked. The trouble in a journal of your kind is to get *variety*; that must come by interesting all the corps. Can't you get a Line Committee of young men to get and present their own papers on their own subjects? Give them voice. I can readily understand the difficulties in the way of your Publication Committee. But you do well—go on!"—[An Officer of the Quartermaster's Department to the Secretary, *April 10th*, 1883.]

RECRUITS FROM UTAH.

"At a meeting of our fellows on Sunday, it was agreed to send in quite a number of names as candidates for membership in your favorite INSTITUTION. I would send list at once, but it was thought advisable to await the expected arrival of the outlying companies of the regiment, which are all to come here prior to a new deal for detached service at Fort Thornburgh. So somewhere among the first ten days of May we may send in quite a list."—[An Officer at Fort Douglas, Utah, April 24th, 1883, to Captain Brewerton.]

A HEARTY ENDORSEMENT.

"Regarding my interesting myself to increase the membership of the MILITARY SERVICE INSTITUTION, I have the honor to state that from the time it was first established to the present, I have been a staunch advocate of the 'INSTITUTION.' * * * There is not a post I have been stationed at, or a command I have come in contact with, that I have failed to represent the great advantages which the service would derive from it, and to impress to the utmost of my power the almost imperative duty it is of every officer of the army to become a member. The basis upon which it was established should enlist the active co-operation of every officer of our army who has the interest of his profession at heart, and I am really surprised that the roll does not contain double the number of names which are to be found upon it. The amount of dues cannot have any effect in retarding the increase of membership, it being so small no officer would miss it in his annual expenditure, and further, *more* than the full value of the annual dues is returned to each member in the copy of the very handsome 'JOURNAL' which is furnished him quarterly.

"According to the Annual Report for 1882, there are a little over one-fourth* of the officers of the army, members of the INSTITUTION. This argues a lukewarmness in professional matters * * * which it is to be hoped time and the united efforts of the School of Application at Leavenworth, and the Artillery School at Fort Monroe, will eradicate." * * * [A Captain of Cavalry to the Secretary, March 26th, 1883.]

* Now (June 1, 1883) one-third.

OUR CAMP CHEST.

[Contributions of anecdotes, short sketches or other light matter are solicited for this Department.]

"OLD PUT" AND LORD STIRLING.

In humble imitation of Plutarch I pair off two of our Revolutionary heroes to show resemblance in essential traits, set off by minor divergence. They were not the two most eminent as commanders, but as soldiers and patriots were equal to any. He whom I name first is entitled to the position, as the oldest in warlike experience and in high rank.

Israel Putnam was the most rustic of our general officers in the War of Independence. He had in his youth figured as a brave fighter of French and Indian enemies in the war by which Canada was acquired by Great Britain. The story of his life, not written by himself, may contain some exaggeration; but it cannot be doubted that he passed through many thrilling adventures, and they developed in him not merely the character of a backwoods combatant, but that of a true soldier who appreciates discipline, and learns how to command by knowing how to obey. On returning to civil pursuits he lived as a farmer and for a time as a village inn-keeper, and received the appointment of a Brigadier in the Militia of Connecticut. He flew to the field when the man at Lexington "fired a shot heard round the world;" and was prominent at Bunker's Hill, though destruction, after he was dead, sought to rob him of the credit of it. The improvised force which fought there was under the command of General Ward, then at Concord. Who commanded on the spot is much contested, and, I think, for the simple reason that no one then knew. There were among officers brought suddenly together questions touching local and effective rank which could not easily be settled at such a time; and a plain piece of defensive fighting, on the plan of which all were agreed, had less than usual need of central authority. Of Putnam's presence and efficiency, however, whether he commanded or not, there can be no doubt. "Don't hang Putnam, if you take him," a young British officer is reported to have said to his General, "for he is too fine a soldier to be put to such use."

Putnam figured at the siege of Boston as a Major-General, under a State or provisional commission, and was afterward appointed to that rank in the Continental line. His prompt example, backed by old prestige, was no doubt effective in giving vim and extension to that local insurrection which brought on the general war; but in the latter he was not prominent. Patriotic bravery and warlike experience alone could not develop the capacity of a great commander; and Putnam is remembered rather as soldier than as a General. He was moreover so illiterate that he could not pen an ordinary note with correctness.

William Alexander, commonly known as Lord Stirling, though of Scotch paternity, was a native of New York city and a resident of New Jersey. In his youth he joined as a Commissary the New England expedition against Louisburgh, and became an aid to the commander, Lord Shirley, in which capacity he acquired two or three years of warlike experience. William Alexander was descended from the house which held the Scotch Earldom of Stirling. The last Earl had died without direct heirs, and the inheritance ought then to have descended to the American branch. William's father did not claim it, because he had fled from Scotland as a Jacobite; but his son visited England, and laid claim to the Earldom. A competent court decided that he was the heir-at-law; and he then, at the general suggestion of correspondents, assumed the title of Lord Stirling, which was thereafter accorded to him in courtesy both in Great Britain and America. Some obsolete legal difficulties still made it necessary that his right should be acknowledged by Parliament to become effective; and this would probably have been done had peace continued. More certainly would it have been done, after war broke out, had the new Lord espoused the cause of the King. But when separation became inevitable the feeling which arose in him above all others was

"This is my own, my native land,"

and the expectant Peer took the position of a rebel. His military advent as such was at

the head of a regiment of New Jersey Militia. He was the first Colonel commissioned for the Continental line, and was subsequently promoted in the same to the rank of Brigadier and of Major-General. In the rout which followed the battle of Long Island he covered the retreat with a weak rear guard, and enabled thousands to escape by holding the bridge of Guanass Creek till surrounded and compelled to surrender. He was in a short time exchanged, and figured gallantly at Brandywine, Germantown, Monmouth, and in many actions of less importance. He was always a zealous and intimate friend of Washington; and it was he who discovered and exposed the Conway cabal, by which an attempt was made to displace the General-in-Chief. When peace was in prospect Stirling, with the foresight of a statesman, suggested to Washington the importance of taking early possession of certain frontier points, the timely holding of which might give advantage in the settlement of boundaries. Stirling, however, did not live to see the consummation of peace. He died at the beginning of 1783, in the 57th year of his age. When the war opened he possessed an estate estimated to be worth \$250,000, equivalent to more than twice that sum now; but nearly all of it was sacrificed in diverse ways to the cause he espoused. Lord Stirling was far superior in natural abilities to the veteran with whom I have paired him; and but for one failing he might have ranked with the highest of Washington's subordinates. His convivial habits made it unsafe to entrust him with too much independence of command.

As Putnam was the most rustic of our Revolutionary Generals, Stirling was the only native among them who was by right a nobleman. Though that rank was not regally sanctioned, it was universally recognized by society. Washington and his officers always accosted Stirling as "My Lord," and his daughters were known as Lady Mary and Lady Kitty as long as they lived. New ideas had not yet made old habits wholly repugnant. But Stirling merits the higher titles of a gentleman and a soldier; and we can afford to Putnam those of a soldier and a gentleman; for he who is in the highest sense the former is sure to be in a moral sense the latter. I pair them not only for comparison and contrast, but also as typical of two kinds of character which a beneficent revolution usually calls forth—men of humble class and attainments, who, without great talents, but by dint of bravery, hard sense, and hard honesty, rise to rank and distinction; and men who, though born to rank and wealth, sacrifice those personal advantages to the good of the whole people.

R. M. P.

THE LOCUSTS.

"You must be sick," said the Quartermaster, as soon as he had recovered from his surprise at the Major's refusal to join in the usual morning cocktail. "O no," replied the veteran, as a sad gleam of longing reluctantly faded from his light blue eyes, "but I've been thinking that drinking before breakfast isn't exactly the thing, you know; injures the digestion, and I've about concluded to swear off." The Major turned towards the looking-glass to wash the few grey hairs which still clung to his brow, when the cheery voice of young Spurstrap was heard calling the Quartermaster. "Come out on the porch, Brown, and see the locusts—millions of 'em, come and hear the concert." "Locusts!" muttered the Major, "locusts—that accounts for this blank ringing in my head this morning, I thought—Brown, I guess I'll change my mind and take about forty drops to keep off the malaria. If a man drinks in moderation he is all right." Before breakfast was over the Major had forgotten all about the wet evening before the advent of the locusts.

The following yarn is given as it was told by an officer of the regiment referred to, and is not vouched for by the writer:

Shortly after the late war the headquarters of one of our regular infantry regiments was stationed in a Southern city. The Colonel and regimental staff officers boarded at a hotel near the suburbs. Vacancies in the list of commissioned officers were being rapidly filled by new appointments, mostly from the army of ex-Volunteer officers, but not always. Once in a while a man innocent of everything military would come along. One fine day a genius of the latter class landed at the railroad depot of the town referred to, and having learned the name of the hotel where the commanding officer of the regiment was staying, started off for it. This aspirant for military honors was uniformed (?) in a suit of citizen clothing, with a semi-hunting cut, a stove-pipe hat adorned his head, he carried a double-barrelled shot gun on his shoulder, and at his heels followed a pair of pointer dogs. Arriving at the hotel, he found that the Colonel and all

the officers were absent, having returned to their various offices and duties after dinner. After partaking of some dinner he took his gun and dogs and started for the woods, not over half a mile distant. The afternoon wore on, supper time came, the officer boarders took their suppers and adjourned to the front veranda, where they took their seats to chat and smoke. They were all in uniform, with rectangles on their coats or blouses.

At the other end of the veranda nearest the woods sat one stout elderly military looking individual, dressed simply in the garb of the enlisted man—plain blouse, trousers and forage cap—not a sign of rank or style about him, and apparently buried in deep thought. Suddenly he was almost brought to his feet by a heavy slap on the shoulder, given him by the genius already described, accompanied by the query, "I say, old chap, which of them galoots over yonder is the commanding officer?" As the "old chap" was the Colonel commanding, the scene can be better imagined than described, the "galoots over yonder" enjoying it immensely. The new-comer was ever after known in the regiment as the double-barrelled-stove-pipe-hat-pointer-dog-man. In two or three years he resigned.

S.

While absent from my post, in the Indian Territory, a few years ago, in command of a detachment of cavalry escorting Indians on a hunting expedition, we were snow-bound for nearly two weeks. We were in camp on the Upper Canadian, on a small stream fed by a very fine spring. At one end of the camp the creek made quite a sharp turn on its way to the Canadian. In the bend thus formed the "kitchen" of the detachment was located. One evening a man belonging to the detachment was sitting on a log close to the fire, his elbows on his knees, and a piece of old newspaper held in both hands, which he appeared to be earnestly studying. The cook was baking bread in Dutch ovens in the open air, and was evidently annoyed at the other man being very much in his way. At last the cook said, "Get up out of that and go to your tent; you will sit there so long reading them advertisements (short) about Plantation *Bitters* that you will get drunk." As it was fifty miles from camp to where any liquor could be procured, could imagination be stronger?

S.

LIST OF MEMBERS WHO HAVE JOINED THE INSTITUTION IN APRIL AND MAY 1883. (64)†

ARNOLD, A. K., Major 6th Cav.
AUGUR, C., Lieut. 2d Cav.

BABCOCK, J. B., Capt. 5th Cav. M.
BACON, A. S., (late) Lieut. 1st Arty.
BENNETT, C. A., Lieut. 3d Arty.
BLAINE, J. C., Major Pay Dept.
BLUNT, M. M., Lt.-C. 25th Inf. Col.
BYRNE, B. A., Lieut. 6th Inf.

CALEF, J. H., Capt. 2d Arty. M.
CARLAND, J., Lieut. 6th Inf.
CLAGUE, J. J., Capt. Sub. Dept.
CLOUS, J. W., Capt. 24th Inf.
COMEGYS, W. H., Major Pay Dept.
CROWELL, W. H. H., Lieut. 6th Inf.

DODGE, F. S., Major Pay Dept.

ELLIOTT, C. P., Lieut. 13th Inf.
EWING, E. S., Capt. 16th Inf. M.

FITCH, G. D., Lieut. 5th Arty.

GREENE, L. D., Lieut. 7th Inf.
GRIERSON, C. H., Lieut. 10th Cav.

HAMILTON, W. R., Lieut. 5th Arty.
HAWKINS, H. S., Capt. 6th Inf.
HAWKINS, J. P., Major Sub. Dept. M.-G.
HUMPHREYS, C., Lieut. 3d. Arty.

JONES, T. W., Lieut. 10th Cav.
JEWETT, H., Major 16th Inf.

KELLOGG, S. C., Capt. 5th Cav. Lt.-C.
KENNEDY, W. B., Capt. 10th Cav.

LEE, D. M., Capt. 6th Inf.
LIVERMORE, W. R., Capt. Eng.
LODOR, K., Major 3d Arty. Col.
LORING, L. Y., Capt. Med. Dept.

MARTIN, J. P., Major A. G. Dept. Lt.-C.
MARTIN, W. P., Capt. M. S. K. U. S. A.
MCGONIGLE, A. J., Major Q. M. Dept.
Lt.-C.

MEINELL, H. C., (late) Lt. 3d Arty. Capt.
MILES, N. A., Brig.-Gen. U. S. A. M.-G.
MILLAR, E. A., Lieut. 3d Arty.
*MOORE, FRANCIS, Capt. 9th Cav.

OAKES, JAMES, Col. Retired. B.-G.

PHELPS, F. E., Lieut. 8th Cav.

ROBINSON, A. G., Major Q. M. Dept.
ROSS, J. M., Lieut. 21st Inf.
RUGER, F. H., Col. 18th Inf. B.-G.

SCHINDEL, J. P., Capt. 6th Inf.
SEBREE, L. E., Lieut. Signal Corps.
SHAW, J. J., Lieut. 6th Inf.
SMALL, M. P., Major Sub. Dept. B.-G.
SMITH, J. R., Major Med. Dept. Col.
SMITHER, R. G., Capt. 10th Cav.
*SPENCER, W. V., (late) Lieut. 13th Inf.
STRONG, F. S., Lieut. 4th Arty.
STUART, S. E., Lieut. 1st Arty.
SUMNER, S. S., Major 8th Cav.

TERRELL, C. M., Major Pay Dept.
THOMPSON, J. F., Lieut. 2d Arty.
TIERNON, J. L., Capt. 3d Arty.
*TILLMAN, S. E., Prof. Mil. Acad.
TORREY, Z. W., Lieut. 6th Inf.
TOWNSEND, F. G., Lieut. 6th Inf.
TURNER, G. L., Lieut. 18th Inf.

VALOIS, G., Lieut. 9th Cav.

WADE, J. F., Lt.-Col. 10th Cav. Col.
WISSEK, J. P., Lieut. 1st Arty.

‡WILSON, G. F., Lieut. Med. Dept.
‡*CHAMBERS, A., Lt.-Col. 21st Inf. Col.

* Life Member.

‡ Omitted from List in No. 13.

† Total number to June 1, 789.

HEADQUARTERS MILITARY DIVISION OF THE ATLANTIC,

GOVERNOR'S ISLAND, N. Y. H., May 31, 1883.

GENERAL ORDERS }
No. 4. }

The Major-General commanding the Division announces with deep regret the decease at these Headquarters, on May 30th, 1883, from disease contracted in the line of duty, of Major and Brevet Colonel WILLIAM GALBRAITH MITCHELL, Assistant Adjutant General, U. S. A.

He was a native of Lewistown, Mifflin County, Penn., and at the breaking out of the late war of the Rebellion was among the first to enter the Volunteer service of the United States, having been mustered into the service on April 18th, 1861, as a private in Company "E," "Logan Guards," 25th Pennsylvania Infantry.

He was at once appointed color bearer, and carried the flag when his regiment marched through Baltimore, en route for the National Capitol, immediately after the 6th Massachusetts Infantry had been assaulted.

On the 23d of the same month he was transferred to the 7th Regiment Pennsylvania Infantry, and on the same day was made Sergeant-Major, and on the 2d of June, 1861, was promoted to be 1st Lieutenant. His regiment served in the Shenandoah Valley, Va., until honorably discharged by expiration of enlistment, August 5th, 1861.

On the 25th of the same month he became 1st Lieutenant in the 49th Pennsylvania Volunteer Infantry, and in December, 1861, specially attracted the attention of the Division Commander, then commanding a brigade, by an exceptional act which displayed his ability as an engineer, proved his force of character, and determined the General to appoint him an Aide-de-Camp.

He continued to hold his regimental commission until promoted on December 7th, 1863, to be Aide-de-Camp U. S. Volunteers, with the rank of Major from June 25th, 1863. On August 1st, 1865, he was assigned to duty as Assistant Inspector General, with the rank of Lieutenant-Colonel, and acted in that capacity until July 31st, 1866.

On October 23d of that year he was appointed a Captain in the 37th U. S. Infantry, with rank from July 28th, 1866, and was subsequently transferred to the 5th U. S. Infantry on the 10th of May, 1869.

On July 1st, 1881, he was promoted to be Assistant Adjutant General U. S. Army, with the rank of Major.

As a reward he received three brevets in the Volunteer service, the last being to Brigadier General for "distinguished and most valuable services during the war." He also received on March 2d, 1867, three brevets in the regular army, respectively to Major, Lieutenant-Colonel, and Colonel, for gallant and meritorious services in the battles of the Wilderness, Boydton Road and Spottsylvania, Va.

The following list of conflicts, in which he was engaged, shows his brilliant field record during the war of the Rebellion:

Action of Lee's Mills, siege of Yorktown, battle of Williamsburg, action of Garnett's Hill, battles of Golding's Farm, Savage Station, and White Oak Swamp, action of Cramp-ton's Pass, battles of Antietam, Fredericksburg, and Chancellorsville, battle of Gettysburg, action of Bristoe's Station, battles of the Wilderness, Po River, Spottsylvania, North Anna, Topotomoy, and Cold Harbor, siege of Petersburg, the two battles of Deep Bottom, and battles of Reams Station and Boydton Plank Road.

After his appointment as a Captain in the regular army, and upon his honorable discharge from his Volunteer commission, he was appointed November 15th, 1866, Aide-de-Camp to the Major-General commanding, and served with him at different stations, but was relieved, April 3d, 1869, on his own application, to enable him to join his regiment at the time of the reorganization of the army in that year.

Major-General Schofield, then commanding Department of the Missouri, in which his regiment was serving, however, immediately detailed him for duty at Department Headquarters, where he remained successively under Generals Schofield and Pope, until Major-General Hancock, then commanding the Department of Dakota, obtained again, on April 10th, 1871, his services as Aide-de-Camp, in which capacity he continued until promoted to be Assistant Adjutant General.

During the time Major-General Hancock commanded the 5th Military District, under the reconstruction laws, he performed the duties of Secretary of Civil Affairs for that District.

During a period of over twenty years this lamented officer, in the capacities either of Aide-de-Camp, or Assistant Inspector General, or Assistant Adjutant General, served on the staff of the Major-General commanding, and at all times, whether in active field service and actual hostilities, or in time of peace, acquitted himself of his responsible duties to the entire satisfaction of his military superiors.

He was industrious, wise, judicious, and discreet, composed in time of action, and ever ready to perform his duty, and by the manner in which he performed it acquired the respect and esteem of all in the volunteer or regular services with whom he came in contact.

In his service in the late war and subsequently, he became known to the general officers of importance, by all of whom he was respected and appreciated. Had he lived longer, the rewards due his merits would have been greater than opportunity had afforded.

In his domestic relations his conduct was equally estimable. The Division and Department Commander feels that not only has the service lost one of its most valuable officers, but that he has personally lost a friend and military associate for whom he had the most perfect regard, and in whom he had unlimited confidence.

The usual badge of mourning will be worn by the officers at Division and Department Headquarters and post of Fort Columbus for thirty days.

BY COMMAND OF MAJOR-GENERAL HANCOCK:

WILLIAM D. WHIFFLER,

Assistant Adjutant General.

THE MILITARY SERVICE INSTITUTION OF THE
UNITED STATES.

PRIZE ESSAY FOR 1883.

I. The following Resolution of Council is published for the information of all concerned :

Resolved, That a prize of a Gold Medal of suitable value, together with a Certificate of Life Membership, be offered annually by "The Military Service Institution of the United States" for the best Essay on a military topic of current interest ; the subject to be selected by the Executive Council and the prize awarded under the following conditions :

1. Competition to be open to all persons eligible to membership.*
2. Each competitor will send three copies of his essay in a sealed envelope to the Secretary on or before March 1st, 1884. The essay must be strictly anonymous, but the author shall adopt some *nom de plume* and sign the same to the essay, followed by a figure corresponding with the number of pages of MS., and accompany the essay by a sealed envelope bearing the *nom de plume* on the outside, and enclosing his name and address. This envelope to be opened in the presence of the Council after the decision of the Board of Award has been received.

3. The prize shall be awarded upon the report of a Board consisting of three suitable persons chosen by the Executive Council.

4. The successful essay to be published in the Journal of the Institution, and the essay deemed next in order of merit shall receive honorable mention, may be read before the Institution, and at the discretion of the Council, be published.

5. Essays shall not exceed twenty thousand words, or sixty pages of the size and style of the Journal (exclusive of tables).

II. The Council on the 3rd of January, 1883, resolved that the subject for the Prize Essay of 1883 should be—

The Military Necessities of the United States and the best Provisions for Meeting Them.

III. The gentlemen chosen by the Council to constitute the Board of Award for 1883 are as follows :

General WILLIAM T. SHERMAN, U. S. Army.

Major-General WILLIAM B. FRANKLIN, (late) U. S. Army.

Brevet Major-General Z. B. TOWER, U. S. Army.

THEO. F. RODENBOUGH, *Secretary.*

Governor's Island, N. Y. H., *January 3, 1883.*

*All Officers of the Army and Professors at the Military Academy shall be entitled to membership, *without ballot*, upon payment of the entrance fee. Ex-Officers of the Regular Army of good standing and honorable record shall be eligible to full membership of the Institution *by ballot* of the Executive Council. (Extract from By-Laws.)

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